

Yours sincerely
Bernard Bosanquet

From a photograph of Mr. Bernard Bosanquet taken in 1909 in his 61st year.

PROCEEDINGS
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ARISTOTELIAN SOCIETY.

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PAPERS READ BEFORE THE SOCIETY.

1922-1923.

*Meeting of the Aristotelian Society at 21, Gower Street, London,
W.C. 1, on November 6th, 1922, at 8 P.M.*

I.—UNIFORMITY AND CONTINGENCY.

THE PRESIDENTIAL ADDRESS.

By A. N. WHITEHEAD.

THE subject matter which I propose to consider in this address is a well-worn theme of philosophy, and I cannot hope in any essential way to remove the difficulties which encompass it. My endeavour will be merely to restate the problem with attention to distinctions and discriminations which are sometimes insufficiently emphasized.

The general problem is to examine, whether any isolated portion of our experience has any character which of itself implies a corresponding character, extending beyond the domain of that immediate example. In other words, we ask whether, on the ground of experience, we can deduce any systematic uniformity, extending throughout any types of entities, or throughout the relations between them. Where uniformity ends, contingency commences. The whole subject has been discussed by Hume in his *Philosophical Essays concerning Human Understanding*, with a clarity which constitutes his investigations a classic locus, from which all subsequent discussion must start. In order to get the discussion under way, I will start with some quotations from Hume:—

“An annalist or historian, who should undertake to write the history of Europe during any century, would be influenced

by the connexion of contiguity in time and place. All events, which happen in that portion of space, and period of time, are comprehended in his design, tho' in other respects different and unconnected. They have still a species of unity, amidst all their diversity" (Essay III, of the *Association of Ideas*).

"Tis universally allowed by modern enquirers, that all the sensible qualities of objects, such as hard, soft, hot, cold, white, black, etc., are merely secondary and exist not in the objects themselves, but are perceptions of the mind, without any external archetype or model which they represent. If this be allowed, with regard to secondary qualities, it must also follow with regard to the supposed primary qualities of extension and solidity; nor can the latter be any more entitled to that denomination than the former. The idea of extension is entirely acquired from the senses of sight and feeling; and if all the qualities, perceived by the senses, be in the mind not in the object, the same conclusion must reach the idea of extension, which is wholly dependent on the sensible ideas or the ideas of secondary qualities" (Essay XII, of the *Academic or Sceptical Philosophy*).

I wonder whether this was one of the passages which awoke Kant from his dogmatic slumber. He certainly accepts the argument by his doctrine of space and time as forms of intuition.

Hume accepts, without question, space and time as reigning throughout nature. It is in fact the very basis of his celebrated analysis of the idea of necessary connexion amongst events. He says: "It appears, then, that this idea of necessary connexion amongst events arises from a number of similar instances, which occur, of the constant conjunction of these events, nor can that idea ever be suggested by any one of these instances, surveyed in all possible lights and positions. But there is nothing in a number of instances, different from every single instance, which is supposed to be exactly similar; except only, that after a repetition of similar instances,

the mind is carried by habit, upon the appearance of one event, to expect its usual attendant and to believe, that it will exist.

“This connexion, therefore, which we *feel* in the mind, or customary transitive of the imagination from one object to its usual attendant, is the sentiment or impression, from which we form the idea of power or necessary connexion” (Essay VII, of the *Idea of Necessary Connexion*).

You will notice that in this passage “the constant conjunction” of events and the “attendance” of one event on another must mean spatio-temporal contiguity, or else the whole point of his explanation of the idea of causation is lost. Accordingly the spatio-temporal character of nature is a presupposition of Hume’s philosophy. I am not making any objection to Hume’s assumption: far from it, I am claiming his support. What Hume says of the history of Europe is true of any set of events. “They have still a species of unity, amidst all their diversity.” They obtain this “species of unity” in virtue of their joint inclusion within some definite four-dimensional region of space and time.

I ask now, on what basis do we ground the assumption of the spatio-temporality of nature? The presupposition stands on a different basis to contingent occurrences. If time and space cease to be, there is a rupture in the texture of experience; but when the Campanile in Venice collapsed, the incident was unexpected and regrettable, but did not otherwise affect the intrinsic character of things observed. The status of space and time is in some way different from that of the Campanile.

In the absence of space-time there may still be consciousness aware of the truths of pure mathematics. It so happens that in fact we contemplate these mathematical truths in a temporal succession. But this order of precedence in our consideration of mathematics seems casual and irrelevant, so that we can easily imagine a timeless mathematical knowledge. In the same way the idea of a spaceless mathematical know-

ledge presents no difficulty; and mathematics, as thus known, would even contain the science of pure geometry, viewed as an abstract mathematical subject. Accordingly we cannot maintain that knowledge in itself requires space-time, either as conditioning the mode of consciousness, or as an essential system of relations interconnecting the things known.

Again we cannot maintain that the mode of apprehension, in consciousness, of a spatio-temporal nature requires that the mode itself should include temporal transition. In other words, the fact, that nature is a process, does not require that consciousness of nature should be a process. For the moment of consciousness involves a specious present in which there are antecedents and consequents. Accordingly, such process as in fact does attach to consciousness is not the necessary consequence of the apprehension of process. For if this were the case, the suspension (relatively to the process of nature) of the process of consciousness, so as to include the specious present in immediate apprehension, would be impossible; consciousness would have to put the past behind it, in step with nature.

Accordingly, by an indefinite enlargement of the specious present, we can imagine an awareness of all nature as a process, although no process is implicated in the mode of awareness. Accordingly we can dismiss the process of consciousness as irrelevant to the immediate enquiry, and can concentrate on the fact, that nature, as apprehended in consciousness, is constituted as a process, and that the analysis of this constitution is expressed by the properties of space-time.

The peculiarity of the space-time process is, that any part of it establishes the whole scheme within which the remainder is set. We can imagine that, in the realm of existence, there may be an alternative space-time process other than that of nature; but nature and the alternative process do not conjoin to make one process. In fact we are aware of such alternative processes in dreams, where we apprehend a process of events

which in respect to nature are nowhere and at no time. The dating of the dream is the correlation of the process of the apprehending consciousness with the space-time of nature. But, in respect to the matter of the dream, fortunately there is no region of nature which was the field of those awful events. Let it be noted that the new relativity doctrine has a vital connexion with the theory of dreams. According to the older views it was open for an objector to say that the dream-date of the dream-events was the real time of night as correlated with the process of consciousness, but that the dream-space and its dream-contents were imaginary. But space and time have now been assimilated, so that you cannot tear them apart. Accordingly, when the dream-space is assigned to an imaginary world, so is the dream-time. It therefore becomes necessary to distinguish between the process of apprehension and the apprehended process.

The distinction between the dream-world and nature is, that the space-time of the dream-world cannot conjoin with the scheme of the space-time of nature, as constituted by any part of nature. The dream-world is nowhere at no time, though it has a dream-time and a dream-space of its own. We may ask anyone who, in contradiction to this doctrine, maintains the contingency of space-time relations, untempered by any uniformity imposed by any single part or region, how the dreams are to be discriminated from natural occurrences. The course of nature is entirely contingent, since Hume's doctrine merely explains the growth of our expectation and has no reference to the actual course of nature in the future. Suppose that one morning you wake up in your bedroom, having dreamt that you were tossed by a bull. You know that it was a dream, because here you are, safe in bed, and you dined and went to bed quietly last night. Also you recollect that, when you went to bed, you had not been tossed by a bull. Accordingly it must have happened during the night. Why should it not have happened just as really as your dinner or breakfast? There is

no saying what will be the course of events, and your experience now shows you, that you may be tossed by a bull during the night, and be none the worse next morning.

Why not? Hume speaks of vivid impressions and faint copies. But a good nightmare is as vivid an impression as most of us ever have. Also you may say that in a dream we do not notice subsidiary circumstances. But this omission surely cannot discriminate dreams from reality. Anyone tossed by a bull, either in or out of a dream, is in a bad position to take notes of the landscape. Many people in ordinary conditions fail to note the most obvious circumstances. It is said that a Prime Minister's wife was once in terror lest her husband should have gone to the House of Commons without his trousers, so unobservant was he of subsidiary details. Further, in dreams we often take very careful notes of all details. I remember once having the dream of hovering, and in my dream taking the most careful notes. I remembered that I had had the experience before, and had subsequently decided that it was a dream. Accordingly, I decided to observe all the circumstances with great exactness, so as not again to be led into disbelief by my vague recollection of the details. When I woke I remembered a vivid experience, with all its details carefully observed. Unfortunately, it would not fit into the space-time framework of my waking experience. But otherwise there was nothing against it.

Thus the position we are led to is that we are aware of a dominant space-time continuum and that reality consists of the sense-objects projected into that continuum. It is not true that the apprehended process invariably fits into this dominant continuum: for example, dreams do not. But it is true that by an indirect inference we can always correlate the process of apprehension with the dominant continuum: for example, in the case of a dream we can note the time of going to bed and the time of waking, and can correlate the process of apprehending the dream with some portion of the intervening night. An

apprehended process which does not fit in with the dominant continuum is called imaginary, and its status must be considered separately. It is probably true that a vague sense of the dominant process even persists through sleep, but it cannot be recalled as a distinct recollection.

The fitting in of distinct apprehended processes into one dominant continuum—for example, my life in the morning with my life in the afternoon of the same day—can only mean that the apprehended process of the morning has disclosed a scheme of relations amid relata, which extends beyond itself (*i.e.*, beyond my life of the morning), so that my experience of the afternoon is nothing else than the apprehension of a process which is included in this predetermined scheme, and it is apprehended as being thus included. The same explanation holds of the continuity of the apprehended process of my life for shorter periods, from hour to hour, from minute to minute, and from second to second. If the spatio-temporal continuity does not mean this, what does it mean? Furthermore, if there be no apprehended spatio-temporal continuity of this character, how do the advocates of experience as our sole source of knowledge propose to exclude dreams from the realm of reality? You may put it in this way,—A standard of normality, independent of arbitrary selection, is essential in the philosophy of experience.

It is not necessary to maintain, and it probably is not true, that awareness of a dominant space-time continuity is necessary for consciousness. It seems very improbable that such consciousness as appertains to the lowest type of conscious animals includes any such awareness. It seems more likely that a delicate sense for spatio-temporal continuity, with its accompanying discrimination of reality from illusion, is the last product of a developed consciousness. It is certainly easily destroyed or weakened, and its loss is compatible with rationality and some measure of sense apprehension.

Accordingly, our awareness of nature consists of the projection of sense-objects—such as colours, shades, sounds, smells,

touches, bodily feelings—into a spatio-temporal continuum either within or without our bodies. In fact our bodies are primarily the loci within this continuum of the special class of sense-objects which I have called bodily feelings. But “projection” implies a sensorium which is the origin of projection. This sensorium is within our bodies, and each sense-object can only be described as located in any region of space-time—say, in any “event”—by reference to a particular simultaneous location of a bodily sensorium. We cannot say that a colour is in such-and-such a position at such-and-such a time without referring to some definite sensorium with some simultaneous location, for which it is true. Accordingly, the process of projection consists in our awareness of an irreducible many-termed relation between the sense-object in question, the bodily sensorium, and the space-time continuum, and it also requires our awareness of that continuum as stratified into layers of simultaneity, whose temporal thickness depends on the specious present.

I have suggested the term “ingression” for this many-termed relation. Accordingly, I would say, that we are aware of the ingression of sense-objects amid the events of a dominant space-time continuum, and that this awareness constitutes our apprehension of nature.

If this account of nature be accepted, then space-time must be uniform. For any part of it settles the scheme of relations for the whole, irrespective of the particular mode in which any other part of it, in the future or the past or elsewhere in space, may exhibit the ingression of sense-objects. Accordingly, the scheme of relations must be exhibited with a systematic uniformity. Thus (to repeat), the discrimination of reality from dream requires an apprehended dominant space-time continuum, determined in its totality, and this determination requires that it be uniform. We have here the primary ground of uniformity in nature.

There is another line of thought by which this same conclusion can be reached. I have developed it in the James-Scott

lecture, delivered before the Royal Society of Edinburgh, and included in my book, *The Principle of Relativity*.* This argument is based on broader, and to that extent firmer, ground than the discussion here given. It proceeds from the consideration of the status of any particular item of knowledge, variously called a "factor of fact" or an "entity." It claims that their embeddedness in an all-embracing fact is essential for their very being, so that in this sense all particulars are abstractions. Fact is not another entity, but is the general all-embracingness of reality. There is then an argument, not here reproduced, that correlative to the significance of each factor for fact, there is the patience of fact for each factor, and that this patience must exhibit itself as a systematic uniformity within fact. The argument given above is a particular application to the more general argument of that lecture.

Before proceeding to develop consequences from this conclusion that nature is the observed field of this relationship of ingression, I must consider two objections which may be produced to my preceding argument. Hume, it may be said, provides a standard of normality by reference to what is usual, so that, according to him, the repeated impact of the usual on our minds automatically produces a judgment according to this standard. In fact, the essence of Hume's doctrine is our expectation of the usual. I have already quoted his own statement of this doctrine, and will now repeat it: "But there is nothing in a number of instances, different from every single instance, which is supposed to be exactly similar; except only, that after a repetition of similar instances, the mind is carried by habit, upon the appearance of one event, to expect its usual attendant, and to believe, that it will exist."

I am myself accepting Hume's doctrine, and am merely investigating the presuppositions which it involves. My point

* Cambridge University Press, 1922.

is, that this doctrine will not suffice to discriminate dreams from actual occurrence. Some dreams are very usual, and some occurrences are very rare. For example, my dream of hovering has been much more usual in my experience than my first-hand experiences of glaciers. Why (on Hume's principle) should I turn my hoverings out of nature, and retain my excursions on glaciers? Surely it is very arbitrary. But it may be said that other people have been on glaciers, and it is their concurrent testimony which we trust. I am afraid that, if you read Hume carefully, this argument will not hold. I do not understand how other people's experience can "carry" my mind "by habit." Furthermore, it is probable that among the twelve hundred million people now existing, not to speak of previous ages, there have occurred many more dreams of hovering than excursions on glaciers. Indeed, I do not know how to conduct such an extensive census of other people's experience, and still less do I see how to obtain the information in time to make it of use in the quick bustle of daily life.

Furthermore, I suspect that the tabulated results would be very disconcerting. I am inclined to believe that the majority of humankind do include dreams among the events of nature. There is a tomb somewhere—in Cairo, I think—of a Mahometan saint. The ascription of the tomb to the saint is peculiarly certain, because an angel took someone there in a dream, and showed him the spot. Does not that belief represent the attitude of the majority? Your only ground for scepticism (assuming the good faith of the dreamer) must be that, by direct inspection of your own dreams, you see that their space-time is incoherent with your dominant space-time, and that therefore you suspect the same of other people's dreams.

I pass now to the second objection. It is urged that sense-objects—to use the term which I have applied to colours, sounds, bodily feelings, and such like things—are purely individual and mental, and that the common nature, in which we are incarnate, and which is the nature described in science, is a different order

of being from these psychological offshoots of mental excitement. I again draw your attention to Hume, who has stated to perfection the first comment to be made on this doctrine. I repeat the passage which I have already quoted: " 'Tis universally allowed by modern enquirers, that all the sensible qualities of objects, such as hard, soft, hot, cold, white, black, etc., are merely secondary, and exist not in the objects themselves, but are perceptions of the mind, without any external archetype or model, which they represent. If this be allowed, with regard to secondary qualities, it must also follow with regard to the supposed primary qualities of extension and solidity; nor can the latter be any more entitled to that denomination than the former. The idea of extension is entirely acquired from the senses of sight and feeling; and if all the qualities, perceived by the senses, be in the mind, not in the object, the same conclusion must reach the idea of extension, which is wholly dependent on the sensible ideas or the ideas of secondary qualities."

But, according to the new relativity theory, space and time cannot be disjoined. Thus—if we follow the line of thought of the objection—not only must perceived space, but also perceived time, be considered as mental and purely personal to each individual. But we have agreed that all our knowledge is based on experience. We are thus led to the conclusion that all our knowledge is the play of our own mind. Indeed, on this supposition, it is a mere silly trick which leads me to speak in the plural, and I cannot imagine how I acquired the habit. For I have no source of information to give me news of anything beyond myself. The space-time of science is thus absolutely swept away.*

My own position is that consciousness is a factor within fact and involves its knowledge. Thus apprehended nature is involved

* I have considered this line of thought more in detail in my *Concept of Nature*, Camb. Univ. Press, 1920, under the heading "The Bifurcation of Nature."

in our consciousness. But in its exhibition of this character our consciousness exhibits its significance of factors of fact beyond itself.

I differ from the idealists, so far as they consider such an external significance as peculiar to consciousness and thence deduce that the things signified have a peculiar dependence on consciousness. I ascribe an analogous external significance to every factor of fact, such as the colour green or a bath-chair. Correlative to the significance of nature by consciousness, there is the patience of consciousness by nature. Nature exhibits the fact, that it is apprehensible by consciousness. The ingression of sense-objects amid events is a character of nature exhibiting this patience. Also the stratification into layers of simultaneity, which is an essential character of this ingression, is at the same time an adaptation of nature, so that our finite consciousness of it is possible, and is also an adaptation of consciousness for the apprehension of nature. In other words, it is both a fact of nature, and is also the way in which we apprehend nature. In separately abstracting consciousness and nature from their embeddedness in all-embracing fact, each exhibits its patience of the other.

The space-time continuum is not the sole basis of uniformity in nature. If it were so, induction would be impossible. It is here that we find the weakness in Hume's, and in some other, philosophies. Hume explains a ground for the origin of our instinctive trust in induction. But unfortunately his explanation does not disclose any rational explanation of this trust. The rational conclusion from Hume's philosophy has been drawn by those among the lilies of the field, who take no thought for the morrow. Hume admits this conclusion. He writes:—

“The sceptic, therefore, had better keep in his proper sphere, and display those philosophical objections, which arise from more profound researches. Here he seems to have ample matter of triumph; while he justly insists, that all our evidence for any matter of fact, which lies beyond the testimony of sense or

memory, is derived entirely from the relation of cause and effect; that we have no other idea of this relation than that of two objects, which have been frequently conjoin'd together; that we have no arguments to convince us, that objects, which have, in our experience, been frequently conjoin'd, will likewise, in other instances, be conjoined in the same manner; and that nothing leads us to this inference but custom or a certain instinct of our nature; which it is indeed difficult to resist, but which, like other instincts, may be fallacious or deceitful" (Essay XII, of the *Academic or Sceptical Philosophy*).

Hume runs away from his own conclusion: he adds:—

"On the contrary, he (a Pyrrhonian) must acknowledge, if he will acknowledge anything, that all human life must perish, were his principles universally and steadily to prevail" (*loc. cit.*).

I wonder how Hume knows this: it must be that there is some element in our knowledge of nature which his philosophy has failed to take account of. Bertrand Russell adopts Hume's position. He says:—

"If, however, we know of a very large number of cases in which A is followed by B and few or none in which the sequence fails, we shall in *practice* be justified in saying 'A causes B,' provided we do not attach to the notion of cause any of the metaphysical superstitions that have gathered about the word" (*Analysis of Mind*, Lecture V, Causal Laws). Again I should like to know how Russell has acquired the piece of information which he has emphasized by italics—"we shall in *practice* be justified, etc."

I do not like this habit among philosophers, of having recourse to secret stores of information, which are not allowed for in their system of philosophy. They are the ghost of Berkeley's "God," and are about as communicative.

I do not conceive myself to have solved the difficulty which puzzled Hume. But I wish to point out the direction in which, as I believe, the complete solution will be found. In an

extract, already quoted, he has stated the issue with his usual clearness:—

“But there is nothing in a number of instances, different from every single instance, which is supposed to be exactly similar; except only, that after a repetition of similar instances, the mind is carried by habit, upon the appearance of one event, to expect its usual attendance, and to believe, that it will exist.”

Hume's philosophy found nothing in any single instance to justify the mind's expectation. Accordingly he was reduced to explaining the origin of the mind's expectation otherwise than by its rational justification. It follows, that, if we are to get out of Hume's difficulty, we must find something in each single instance, which would justify the belief. The key to the mystery is not to be found in the accumulation of instances, but in the intrinsic character of each instance. When we have found that, we will have struck at the heart of Hume's argument.

This overlooked character of the single instance must be its significance of something other than itself. This extra something will thus be known by relatedness, arising from the knowledge of the single instance by adjective. We have already found, that the spatio-temporal significance of each single instance is a necessary presupposition of Hume's whole philosophy of nature. We have now to ask, whether there is not some further significance.

There obviously is this further significance. For the single instance is an instance of the ingression of sense-objects amid events. But every sentient being passes at once to the perceptual objects indicated by that instance. How do we pass from the ingression of sense-objects to the perceptual objects? The answer is that the ingression signifies the objects. It is no good saying, that the accumulation of instances of “smell and a pat” reminds a dog of his master by the association of ideas. Hume's argument applies: If no one instance is significant of

his master, but is merely a smell and a pat, what virtue towards producing the master can the accumulation possess? The significance may grow clearer to perception by the accumulation of instances, but it must have been there from the beginning.

A perceptual object is a true Aristotelian adjective of some event which is its situation. It is what I have elsewhere (*cf.*, *Principle of Relativity*, Chapters II and IV) called a "pervasive" adjective—meaning by that term an adjective of an event which is also an adjective of any temporal slice of that event. For example, a perceptual object—say, a chair—which has lasted in a room for one hour, has also lasted in the room during any one minute of that hour, and so on. A sense-object has also in general the pervasive property; but its relation to its situation is entirely different from that of a perceptual object, in that it is derived from its ingression in nature, which is an irreducible many-termed relation.

The point, which I am maintaining, is that the ingression of a sense-object into nature is significant of perceptual objects, so that thereby perceptual objects are known by relatedness. I have previously argued that this ingression is significant of the space-time continuum. But, of course, I do not mean that there are detached independent significances. The ingression is significant of events which are characterised by pervasive Aristotelian adjectives. The event is not bare space-time which is a further abstraction. An event is qualified space-time—or rather, the qualities and the space-time are both further abstractions from the more concrete event.

This significance of ingression is, in respect to space-time, more vividly exhibited by the reference of the sense-object to its situation. But, in respect to perceptual objects, it is more vividly exhibited by the reference, inherent in the ingression, to a sensorium (or percipient event) "here," which is recognised in consciousness as its seat in nature. This sensorium is an event—roughly, the body or part of the body—qualified by an

Aristotelian pervasive adjective. Furthermore, where the sense-object is a bodily feeling, there is a peculiar vividness of recognition of parts of the body as perceptual objects, in that the vivid reference to the sensorium is now used with the fainter, vaguer reference, of the sense-object to a perceptual object in its situation.

But, where the sense-object has its situation projected beyond the body, a difficulty arises. Undoubtedly there is reference to a perceptual object. You see a candle, where the candle is a perceptual object. But this reference to a perceptual object—other than the sensorium—is apt to be vague, illusive, or absent. You see double; you see the image behind the looking glass; you hear stray sounds vaguely filling the space around you; you smell a scent.

The reference of the sense-object to the perceptual object is not as neat as we should desire for simplicity of exposition.

The sense of touch gives a peculiarly vivid reference, and for that reason has been taken as the standard of verification. Doubting Thomas wished to touch his Lord. A vivid reference is also obtained by an accumulation of sense-objects of different types, whose various ingressions relegate them to the same situation.

The evidence is summed up in the statement that the ingression of sense-objects into nature involves events analysable into space-time qualified by pervasive Aristotelian adjectives. The sensoria are always indicated in this way as the loci of perceptual objects, and also in general so are the situations of the sense-objects. But what are the perceptual objects—tables, trees, stones, etc.—which are thus signified? For unbiassed evidence of their character we must have recourse to the general popular idea, and not to scientific accounts, elaborated in the interest of theories, and vitiated by faulty analyses of nature. The popular evidence is unanimous:—The modes of ingression of sense-objects in nature are the outcome of the perceptual objects exhibiting them-

selves. The grass exhibits itself as green, the bell exhibits itself as tolling, the sugar as tasting, the stone as touchable.

Thus the ultimate character of perceptual objects is that they are Aristotelian pervasive adjectives which are the controls of ingression.

Now an Aristotelian adjective marks a breakdown of the reign of relativity; it is just an adjective of the event which it qualifies. And this relation of adjective to subject requires no reference to anything else. Accordingly, a perceptual object is neutral as regards events, other than those which it qualifies. It is thus sharply distinguished from a sense-object, whose ingression involves all sorts of events in all sorts of ways.

Furthermore, the contingency of ingression, with its baffling tangle, is now simplified into the contingency attaching to the simpler relations of perceptual objects to the events which they qualify.

But, if the very nature of perceptual objects is to be controls, have we not in them those missing characters of events, whose supposed absence led Hume to remove causation from nature into the mind? A control is necessarily the control of the process, or transition, in finite events. It thus means, in its essential character, a control of the future from the basis of the present. Thus in modern scientific phraseology, a perceptual object means a present focus and a field of force streaming out into the future. This field of force represents the type of control of the future exercised by the perceptual object—which is, in fact, the perceptual object in its relation to the future, while the present focus is the perceptual object in its relation to the present. But the present has also a duration. What we observe is the control in action during the specious present.

There are a finite number of perceptual objects within any region of space-time relevant to our experience. This finiteness still remains as we pass from the somewhat vague perceptual objects to the more precise scientific objects such as electrons.

Accordingly, there are a finite number of such controls of the future, which are in any way relevant to our experience.

The latest and subtlest analysis of the difficulties which cluster round the notion of Induction is to be found in Part III of J. M. Keynes's *Treatise on Probability*. I will conclude with a quotation from his profound discussion :—

“The purpose of the discussion, which occupies the greater part of this chapter, is to maintain that, if the premises of our argument permit us to assume that the facts or propositions, with which the argument is concerned, belong to a *finite* system, then probable knowledge can be validly obtained by means of an inductive argument” (*Treatise on Probability*, Ch. XXII).

*Meeting of the Aristotelian Society at 21, Gower Street, W.C. 1,
on November 27th, 1922, at 8 P.M.*

II. NOTES ON THE TREATMENT OF "EXISTENCE" IN RECENT PHILOSOPHICAL LITERATURE.

By R. F. A. HOERNLÉ.

THE problems connected with the term "existence" range from the "existential import" of propositions, and the "reference of thought to reality," to the validity of the "ontological" argument for the existence of God. Moreover within this total range, as even a cursory survey of the relevant literature shows, a host of subsidiary problems arise:—The relation of essence to existence; the distinction between "logical" and "real" possibility and the relation of each to the other and of both to actuality; the distinction between "possible" and "necessary" existence; the distinction between analytic and synthetic propositions; the relation of "ideas," or, again, of "concepts," to "facts"; the relation of a class to its members; the problem of denotation; the distinction of kinds of existence, and, again, of universes of discourse; the distinction of objects of "experience" (in one or other of several senses of "experience") and of objects of "pure thought"; the questions whether existence is a "quality," and whether it is definable or indefinable; and many more.* This list contains, roughly, what is still living in the thought and the terminology of present-day logicians and metaphysicians of the accumulated results of centuries of speculation on the distinctions of real and unreal, existent and non-existent, actual and imaginary, self-consistent and self-contradictory; also on the distinctions of what is perceived (or perceptible) and

* *E.g.*, most of the scholastic refinements about *esse* have been omitted in this rough catalogue.

conceived (or conceivable), and, again, of what is asserted (judged, believed) and what is merely assumed (supposed, *angenommen*). The following "Notes" make, of course, no pretence of being adequate to so large a topic. Their aim is solely to single out and comment upon certain points in contemporary discussions. For convenience, these points may be grouped under two headings, viz., (1) the *restricted* ontological argument, and (2) the *generalized* ontological argument. By the *restricted* argument I mean the traditional *a priori* argument for the existence of God, as a personal spirit, all-good, all-wise, all-powerful, or, in more general terms, the *a priori* argument for philosophical Theism, *i.e.*, for the doctrine that the source of the world is a single spiritual Being, supreme and perfect. By the *generalized* argument I mean the defence of the general validity of thought of which we have an excellent example in Chs. iii and iv of Bosanquet's *Meeting of Extremes*.

I. *The Restricted Ontological Argument.*

The most extensive recent discussion of this argument with which I am familiar is to be found in Professor A. E. Taylor's profoundly interesting article on "Theism" in the last volume of the *Encyclopædia of Religion and Ethics*.* It will illustrate the difficulty of the subject and, at the same time, prepare the way for the line of thought which I wish to urge, if I point out that even Taylor, whose competence in this field is much greater than my own, expresses, unless I have gravely misunderstood him, two different and hardly compatible estimates of the validity of Anselm's ontological argument: Anselm, it will be recalled, argues that the fool who says in his heart, "There is no God," attaches to the word "God" either no meaning at all or else an irrelevant meaning, whereas if the

* Vol. xii, pp. 261-287. In the following references the letters *a* and *b*, attached to a page-number, will mean, respectively, the left- and the right-hand column on the page.

fool means by "God" what he ought to mean, viz., "the Being than whom none greater can be conceived," it is impossible for the fool, without contradicting this meaning, to conceive or affirm that there is no God. On this argument, Taylor's comment is that its validity depends wholly on whether the words *quo majus cogitari nequit* have a meaning at all, or are not rather an "unmeaning noise" like the words "line so crooked that no crookeder can be conceived." I quote the central passage: "It seems to the writer of this article that Anselm is at least right in maintaining that, if we can frame the concept 'thing than which no greater can be conceived,' we are bound to think of the object thus conceived as actual. To admit that what we are necessitated to think may be false is fatal to all philosophy and all science, and no exception can be taken to Anselm's argument on the ground that it excludes such an ultimate agnosticism. The really difficult question is rather whether there is any such concept as 'thing than which no greater can be conceived.'"* Taylor's position, here, appears to be (1) that what we are necessitated to think is true—which, as we shall see, is, in effect, the principle of the *generalized* ontological argument;† (2) that we are necessitated to affirm God's existence by the fact of its being implied in God's nature as *id quo majus cogitari nequit*; provided (3) that this last phrase has a meaning. Taylor's criticism of Anselm's argument, thus, accepts the logic of it but questions the meaning of the definition of God. If this is identical with questioning what other writers have called the "logical possibility" of the concept of God, i.e., the internal consistency of the meaning, then, I submit, Taylor's position is substantially this: that given a meaning (or concept) which is free from internal contradiction, we are necessitated to think the existence of the corresponding object

* *Loc. cit.*, p. 268a.

† It is not clear to me from Taylor's analysis whether he would endorse Anselm's *de facto* restriction of the application of this principle to the unique case of God.

(*i.e.*, such object actually exists and the proposition "that it exists" is true), if not generally, at least in the case of God. Whether the phrase defining "God" has a logically satisfactory meaning Taylor does not examine.

Now, when we turn to Kant's criticism of the ontological argument, Taylor takes very different ground. He no longer urges the doubtful meaning of *id quo*, etc., but he takes the very logic of Anselm's argument to have been successfully refuted by Kant. Now, the logic of the argument depends on propositions (1) and (2) above, which, in his comments on Anselm, Taylor had explicitly appeared to adopt and endorse. It is these, or at least the second of these, which he now abandons, declaring that even if the term "God" has a meaning to which no logical exception can be taken, still such meaning carries no existential implication. We cannot pass from logical possibility, *i.e.*, absence of contradiction, to actual existence. For inference to existence we need an existential premise, which can be supplied only *a posteriori*. Kant and St. Thomas are right in holding that no *a priori* proof of Theism is possible. Of course, Taylor does not ignore the fact that Kant's criticism is directed against Descartes's version of the ontological proof, and that Descartes's version differs from Anselm's in that Descartes expressly includes "existence" in the definition of God, whereas Anselm does not. But he holds that Kant's criticism is no less decisive against Anselm than it is against Descartes. I quote again:—"Kant is certainly right in saying that mere success in defining a concept without contradiction does not in general warrant our asserting that the concept has an 'extension.' . . . If it is immediately evident that there is a member of the unit class of which 'supreme being' is the class name, there is neither room nor need for proof. If this is not immediately evident, proof is wanted. In general, it cannot be inferred from the definition of a class that the class has members . . . Thus, as against Descartes, Kant's argument is, in the present writer's opinion, decisive. Nor does he see that the original Anselmian proof

fares any better We are not entitled to infer from the hypothetical proposition, 'If there is a God, that God is an existent,' the categorical proposition, 'God is an existent'; and this is what Anselm tries to do.* Taylor's hypothetical proposition here is hardly a fair statement of Anselm's argument which would be more adequately represented by "If God is (as we all grant) the being than whom no greater can be conceived, then God necessarily exists." But, waiving this point, Taylor does seem here to condemn Anselm's argument for precisely that principle in it which he had previously conceded and endorsed. Previously he had accepted the argument from the definition of God to the existence of God, subject to the proviso that the definition be not meaningless. Now he rejects the same argument even though the definition should be sound by all logical tests. Now he appears to agree with Gaunilo and St. Thomas that though the words *quo majus cogitari nequit* have an intelligible meaning, i.e., though such a being can be conceived without absurdity, nevertheless we can without absurdity suppose such a being to be non-existent.

But the emphasis which Taylor lays on the questions whether the definition of God has a meaning, and whether existence is part of that meaning, contains, I believe, the clue to a very different treatment of the ontological problem. Anselm's *habere in intellectu* is rightly explained by Taylor as meaning that we use the word "God" (or the definitory phrase which may be substituted for it) with a definite meaning. Similarly, God's *esse in intellectu* means that the meaning of the word "God" is present to the mind of the speaker or hearer—that the word is not to them an empty noise. Now, granting the formal condition that no meaning can be meant or understood which is self-contradictory, it still remains true that every meaning must have a "material" content; even a contradiction must be between positive *whats*, e.g., in "round square"

* *Loc. cit.*, p. 278a.

between what it is to be round and what it is to be square. Assuming, then, the fulfilment of all formal requirements, it would still seem to be a legitimate question, under what conditions the term "God," or any phrase defining "God," can be *materially* understood or used with a positive meaning. Is the "fool" in a position to understand the meaning of "God" at all? In other words, I want to raise the question, not whether the phrase *quo majus cogitari nequit* has a meaning at all, in the sense of involving no formal contradiction, but under what conditions it has, and may be used and understood as having, a material meaning. I want to suggest that, though both Anselm and the fool use the same terms "God" and "Being than which no greater can be thought," there need be no common ground between them other than the sound of the words. For each the words may have a meaning, but there is good ground for holding that the words *cannot* mean for the fool what they mean for Anselm: at any rate, if the fool's experience lacks, as I am assuming it to lack, most of what for Anselm is *expressed* by the term "God."

The following reflections may make clearer what I am driving at:—

The small treatise containing Anselm's statement of the ontological argument was originally entitled *Fides querens intellectum*: faith seeking understanding, or, better still, faith seeking to understand itself. My thesis is that the argument is unintelligible except on the basis of *fides*; that neither "God" nor the phrase defining "God" have their full meaning for anyone who does not bring *fides* to the understanding of them. If this, or something like this, is what Taylor has in mind* when he says that "the real function of [Anselm's] argument is . . . not to demonstrate something, but to 'point something out,'" I heartily agree. If God's existence is self-evident, it is so for *fides*, and not without *fides*. If God cannot be con-

* *Loc. cit.*,

ceived not to exist, it is because such a supposition contradicts the plain deliverances of *fides*. For Anselm's "*fides*," we, nowadays, say "religious experience," or, more simply still, "being religious." At any rate, the point is that the very meaning of *quo majus cogitari nequit*—and this is even more obviously true of the *melius* of the later chapters of the *Proslogion*—is what "faith" puts into these words, or what these words *express* in the mouth of the faithful. It is not the bare residuum that survives for those who have no religious experience to bring to the interpretation of the language. This should be obvious to anyone who reads the *Proslogion* as a whole. By the Being whom Anselm defines as *quo majus cogitari nequit* he means the same Being whom he also addresses in language of passionate adoration: "(Thou art) very life, light, wisdom, goodness, eternal blessedness and blessed eternity, everywhere and always," and, again, "Thou hast beauty, harmony, sweetness, goodness after Thine own ineffable manner."* It is, I submit, a mistake to keep these two things apart in any attempt to understand the ontological argument or to estimate its force. The intellectual effort involved in devising the argument is itself a religious phenomenon: it is faith striving to express its assurance in intellectual terms. Thus the argument has its roots in *fides*, both psychologically and logically. *Fides*, we may say downright, is an essential premise of the argument, at least in the sense that we cannot grasp the full meaning of its terms except we interpret them as expressing *fides*. For *fides*, *i.e.*, for the religious man, the phrase *id quo majus (et melius) cogitari nequit* expresses the nature of the Reality which reveals and communicates itself to him. *Fides* supplies, and *is*, the missing existential premise. Of course, such a premise cannot be

* *Proslogion*, Chs. xiv and xvii. Cf. a similar argument in Albert A. Cock's article, "The Ontological Argument for the Existence of God," in our *Proceedings*, vol. xviii, pp. 363 ff.

packed into half-a-dozen words, such as figure in logical treatises as premises in arguments. What *fides* means we must, in the end, know by first-hand acquaintance—by being religious; and there is no other way of knowing it.* No words can convey this meaning adequately, if the standard of “adequacy” is that words should convey their full meaning even to those who have no religious experience of their own to bring to the interpretation of them. But this is an impossible demand. Religious language can be understood only by those who are themselves religious. We admit this principle readily enough in the case, say, of music and other arts; does it not apply equally to religion? Hence, if I am right, Anselm’s “fool” who denies God because he does not know what “God” means, will not be convinced by Anselm’s argument, because he will not even understand the full meaning of Anselm’s terms—all that they express for Anselm—unless the argument should chance to “point out” to him, or awake in him, some spark of *fides*. Failing this, there is, strictly, no common basis between Anselm and the fool. For, the latter will lack what gives to Anselm’s terms their essential meaning.

I wish to say explicitly that, in putting forward this principle, I have no theological axe of my own to grind. I am not even specially interested in the application of this principle to religion and the existence of God. I use the restricted ontological argument merely as a familiar and historically famous illustration of a principle the scope of which is to my mind as wide as the use of language to express thought. In other words, my interest is quite generally in the conditions under which the words by which we express ourselves have a meaning, *i.e.*, can be used significantly by a speaker and understood by a hearer. And my interest is, further, in the bearing of all this on our theories of thought and judgment and knowledge. The point I am trying to insist on is one which most

* Cf. my paper in last year’s *Proceedings*, vol. xxii, especially p. 163.

current discussions seem, if not to deny, at least to ignore. Hence, even at the risk of overlabouring it, I venture to restate it in the following form. It is, by common consent, through their meanings that words function as vehicles and instruments of thought. I suggest that it would be helpful to approach this situation, not, as is usually done, by way of the questions, "What are we thinking (or reasoning) *about*?" or "What is the *object* of our thinking?" but by way of the question, "What are we thinking (or reasoning) *with*?" Or, in other words, "What do our words express?" These questions throw us back upon the resources of our experience which we seek to utter and communicate through the words we use, or which we must bring to bear on the words of others, if we would understand ("interpret") what in their own experience it is which they seek to express. The phrase "what we think *with*" may become more intelligible to some if I translate it into the phrase "*matter* of thought," provided that the Kantian associations of the term "matter" do not mislead us into restricting the matter of thought to the "manifold of sense-data." On the contrary, if "matter" is to be equivalent to "what we think with," it must include, beside much else, also what Kant in his later *Critiques* recognizes as consciousness of duty, as æsthetic pleasure, as appearance of purpose in nature. For, all these elements in our experience find expression in language; all these are data to think with; with all these we must be acquainted at first-hand, else will the language expressing them be meaningless for us. Usually, indeed, when we fail to understand such terms as these we may demand to be told what they mean. We may call for a definition. But what does it help us to be given in reply a string of further words, even though they be cast into the technical form of a definition, unless the meanings of these further words are familiar to us from first-hand experience? If they are not, we shall have merely a "verbal," not a "real," definition. We shall know that one set of words has for the speaker the same

meaning as another set of words, but we shall be no nearer than we were before to knowing what that meaning is. No doubt, the meaning of language, if it is to be a medium of communication between different minds, must be conventional, but the basis of convention must be that the several minds have each had at first-hand the same sort of experiences and, better still, have had "common" experiences through participation in identical situations, and through contact with each other, be it by co-operation or antagonism, in the same setting. Failing this, minds will needs live, as it were, in different worlds. Their diversity of experiences will involve different vocabularies (as a scientist's vocabulary, for example, differs from that of a non-scientific person), and even where they use the same words, they will use them with different meanings. They will fail to understand each other, because they differ in what they think *with*—in the "matter" of their experience. Moreover, even where two minds have the same sort of experience in a *common* situation, they may differ in the range, depth, and reflective analysis and organization of that experience. The mind with the fuller experience will have more to express and more to think with. Thus, in general, on any topic—in science, art, politics, morals, religion—the best thinking will require, not only logical acumen (though this is indispensable), but also an ample range of data to think with. Poverty and narrowness of experience in any field makes for poor thinking and shallow theory in the end.

The argument may seem to have travelled a long way from the restricted ontological problem. But, in reality, it has centred around a point which is fundamental for that problem. The angle from which the problem is usually presented is this: Given a "logically possible" meaning of "God," is that meaning to be "referred to reality"? Are we to say "Yes" to the question, Does God exist? Are we to believe that there actually exists a being such as we mean by "God" (such as we have defined God to be); or, as it is often put, a being "corre-

sponding to our idea"? Our argument, on the contrary, challenges this angle of approach. It suggests that we should rather approach the problem from the side of the experience expressed in the language held about "God." It suggests that, if this experience is genuine, we shall find in it the sought-for union of "that" and "what," of "existence" and "quality" or "character." If this is, in fact, the right angle of approach, we may now proceed to generalize it for the whole realm of meanings which are put forward as claimants for existential affirmation. And, thus, we pass to the *generalized* ontological argument.

II. *The Generalized Ontological Argument.*

By the phrase "generalized ontological argument" I mean, as already stated, the position which Dr. Bosanquet has recently re-affirmed in Chs. iii and iv of his *Meeting of Extremes*, and which makes the problem of ontology one with the general problem of the "reference of thought to reality."

Believing his position to be fundamentally sound, I shall in this section of my paper try to support and supplement it from the point of view developed in the preceding section.

The principle, as I understand it, is this: Whenever we think (judge) at all, there is some real which our thought characterizes; and when what we think this real to be is not open to error, then we judge, and judge truly, that the thing as we think it (*i.e.*, as bearing the character ascribed to it) exists. Of course, this general principle requires to be safe-guarded by qualifications in detail to provide for the thinking which turns out to be erroneous or which takes the form of *Annahme*. These qualifications will claim our attention further on. For the moment, the important point is to start, with Bosanquet, "from the unrestricted idea that the mind's nature is to affirm truly of reality."* Extravagant as such a claim may seem in

* *Loc. cit.*, p. 77.

some respects, I believe, with him, that it gives us "a better perspective" in all discussions of this sort.

(1) I will begin the elaboration of this principle with comments on a passage in Dr. Bosanquet's argument which I should not myself accept without, at the least, some qualifying interpretation. Illustrating his principle he writes: "Essence involves existence in case of the totality of being, because the affirmation of the totality of being cannot arise by any error, but is the pre-condition of every possible affirmation whether true or false."* In support of this Dr. Bosanquet refers to a passage in Dr. Stout's essay on "Error" in *Personal Idealism* from which I quote: "I believe in the totality of being, and it is nonsense to say that I may be deceived. For there is no more comprehensive reality of which the totality of being can be conceived as a partial feature or aspect. Whatever point there may be in the ontological argument for the existence of God lies in this."† These sentences are part of an argument in which Stout sets forth that even in an erroneous judgment some "real existence must itself be present to consciousness" to which the judgment ascribes a qualification which does not belong to it. It follows that the reality must be capable of being conceived without the qualification falsely ascribed to it. Thus, if the real to which the judgment refers is the totality of being, we can neither conceive it without the character of totality nor ascribe that character to any other real. Here, then, we cannot be in error: the totality of being exists; *aliter*, the real exists as a totality. If in these last two sentences I have not misrepresented Stout's application of his general principle to the case of the totality of being, I cannot resist certain misgivings about the argument and about Dr. Bosanquet's endorsement of it. If "totality of

* *Loc. cit.*, p. 86.

† *Personal Idealism*, pp. 35, 36.

being" is merely a synonym for "all that is (exists)," I agree, of course, that I cannot be in error when I affirm that "all that is, is," or "all that exists is all that exists." But, obviously, neither Dr. Stout, nor Dr. Bosanquet, desire to offer us empty tautologies as impressive examples of errorless thinking. "Totality of being," then, we must assume, figures not as subject but as predicate, as the essence (or character) ascribed to "the existent" (or "the real"). But the proposition, "the real is a (or the ?) totality" does not strike me as self-evident, nor does the concept of totality strike me as involving necessarily, and beyond possibility of error, its ascription to the existent as that existent's essence or nature.

The suggestion which I wish to offer is that the solution of the difficulty turns on the "meaning" of totality, and that this meaning needs to be elucidated by an argument similar to that about the meaning of "God" in Section I of this paper. If "totality" means merely "all of existence" or "whatever exists," suggesting at most an aggregate from which nothing existent is omitted, we hardly get, as we have just seen, beyond a tautology. But if "totality" means order, system, organization, wholeness, value—in fact, a *cosmos*, then certainly this character of the existent required discovery by an arduous process of reflection and synthesis before it could be affirmed. And it still requires re-discovery or, at least, fresh verification by every thinker who is not content merely to repeat labels but wants to win his right to that affirmation by genuine insight such as can be based only on an intellectual self-discipline and self-education akin to Plato's dialectic. But, if so, I submit that the meaning of "totality" cannot be divorced, either by him who affirms it or by him who would understand what is being affirmed, from this whole process of re-discovery or verification. The conviction that what exists is a cosmos cannot be gained by a few lines of argument involving a catch of formal—I am almost tempted to say "verbal"—self-contradiction. For, if what exists is

truly a totality or cosmos, certainly insight into this truth, and, thus, the living possession of it, can be gained, and maintained, against ever-present *prima facie* appearances of disorder and disvalue, only by the trained habit of the deeper and more comprehensive view. A sense of formal self-contradiction may be secured by an appropriate manipulation of words, but the real sting of the contradiction must, in the last resort, lie in the refusal to characterize the real by the *meaning* of "totality" in the teeth of all the experience of the real, and of all the synoptic reflection upon that experience, by which that meaning, *i.e.*, the insight into the nature of the real which such words as "totality" seek to express, has been gained. I do not suggest for a moment that Dr. Stout or Dr. Bosanquet would deny what I have been urging. But, if not, their statements do less than justice to the real force of their case.

The argument is not different in principle if we take—as we probably should in the passage from Dr. Bosanquet, quoted above—"totality of being" in a somewhat different sense as meaning "all that comes to us in experience of every kind." In that case, the principle that essence involves existence amounts to the assertion of the ontological value of experience. It tells us that whatever we in any sense experience qualifies the real somehow. The real reveals something of its nature in every form of experience, though the total revelation will require a synoptic effort of the highest order on our part, to which every experience must contribute according to its kind and degree, and in which all may have to undergo more or less re-interpretation of their *prima facie* deliverances. At any rate, Dr. Bosanquet's own philosophical method rests on some such estimate as this of the value of human experience in all its forms as giving us both "that" and "what" of the real.

(2) If, then, we put ourselves at this point of view, we might well say that, given any experience whatsoever, we have in it an indefeasible existential premise. Putting it into words,

we can affirm at the very least "This is" or "Somewhat exists." (It will be noticed that this is exactly Descartes's *cogito, ergo sum*, with the personal pronoun and its implications omitted, as though Descartes had argued *cogitatur, ergo est aliquid*.) The question, "What, then, is this which exists?" would launch us on the adventure of knowledge, and, for the impulse to that question and that search for an answer to the "What?" we need look no further than the fact that at any moment the "somewhat" which we experience presents a more or less highly diversified character, features within which may even be mutually contradictory. Moreover, from moment to moment the character of the given changes: each fresh "this" is also a fresh "what"—occasion sufficient, surely, for analysis and comparison, for distinctions and identifications, in short, for the "thinking" which discriminates terms and relations and qualities, and turns characters found in the given into meanings expressed by words, and thus affirmed of the existent in which they were found. And if we thus look upon thinking as the effort, fed by every kind of experience, to order and organize the manifold characters in which the real reveals itself, into a coherent and intelligible whole—to answer on the most comprehensive scale the original question, "What?", concerning the "That" which every experience attests—we may expect to discover how and where meanings arise which, as abstract, or imaginary, or false, branch off from the main stem, as it were, of categorical affirmation. Their "divorce" from the existent in its true character will, on this view, be only relative. Memory leading to imagination, analysis leading to abstraction, association producing irrelevant as well as relevant conjunctions, the operation of non-theoretical motives (desires, play and make-believe, etc.)—these and others have their part in shaping meanings and the conditions under which they are taken as qualifying the real. Moreover, the very insights which the best thinking elicits from the amplest resources of experience may, when expressed in language as meanings, fail to be understood by minds of lesser

range of experience or smaller power of thinking, or be met by doubt and hesitating incredulity. It will be obvious that, throughout, I am arguing from what Mr. W. E. Johnson has aptly called an "epistemic" point of view. This, however, means for me no more than that in every experience the real reveals itself both as existent and as giving a glimpse, at least, of its character. In short, whatever technical terms we may otherwise choose for the analysis of the relation of "mind" to "object," all that need be granted here is that in every experience analysis will disclose "that" and "what" (synonymously, "this" and "such").

The advantage of approaching "epistemic" questions from the genetic point of view, as here suggested, is that it is easier, beginning with the union of "that" and "what" in immediate experience, to hold fast to the principle of the "reference of thought to reality," *i.e.*, to the qualification of the real by the character which thinking affirms of it. If we begin at the opposite pole with an elaborate complex of meanings some of which we unhesitatingly affirm of the real, whilst we reject others outright, and treat yet others with doubting or tentative hesitancy, and if we then enquire into the reasons for this differential treatment of meanings we find that we can "entertain," "assume," "consider," any meaning without either asserting or denying it of the real. We can detach it and deal with it in the way of *Annahme*, suspending commitment or belief. And, thus, an attitude which is incidental to the elaboration of coherent systems of meanings by categorical thinking may become generalized to the point where no meaning is taken as qualifying the real without special evidence. We then reach the traditional position that no meaning (concept) as such involves existence; that we must always have a separate "existential premise." In a logic which abstracts from the concrete "epistemic" setting, existential premises may be needed for explicitly re-introducing the existence originally omitted. But if we never abandon the epistemic point of view,

the basis of all our thinking in experience guarantees the reference to existence in principle, so that we ought to look rather for evidence why a meaning should not be affirmed than why it should.

Our difficulties on this point seem to be largely due to the fact that language enables us to deal with meanings at times when the experiences or situations in which we saw or felt these meanings to be realized are absent. Hence it is of the utmost importance within what *total context* we choose to interpret the words in which any given "idea" or "judgment" is expressed. This has a considerable bearing on the argument "from essence to existence" or "from idea to fact" which is, as Dr. Bosanquet reminds us,* the usual way of conceiving the ontological problem. If we are considering whether the meaning of certain words implies existence, we must be very clear about the situation in which, or the conditions under which, we assume the words to be significantly spoken. "The moon is full to-night," may be spoken on a fine, clear night as I look up at the moon and enjoy its bright fullness. What I here "express" is a fact actually and vividly experienced: the meaning of my words is *realized* for me in what I actually perceive. But, I may express myself in the same form of words on a dark night when the moon, though full, is completely hidden by storm-clouds, and I may do so merely on the evidence of my calendar. Or, a friend, coming in from the open, may inform me that the moon is full, and I may believe the statement (accept the fact) without looking out to verify it by my own eyes, but trusting his veracity and, perhaps, corroborating it by the quick reflection that it is the time of the month when full-moon is due. This example might be varied indefinitely and paralleled by others *ad libitum*. But the point is, surely, clear: the expression of meanings in words may vary from situations in which we enjoy our meanings actually realized, to others in which we have to rely

* *Meeting of Extremes*, p. 76.

on memories of realizations experienced, on inferences of our own, on the testimony of others, etc. The above example which happens to be a meaning realizable in sensuous fact must not mislead us into thinking that all meanings are necessarily such as to demand a purely sensuous realization. Sensuous fact may be the vehicle of the realization of meanings themselves not sensuous at all. Moral qualities and moral values afford an obvious example. A courageous act, *e.g.*, will be a physical event, perceptible by the senses both for the agent and for onlookers, but the moral quality realized and embodied in it will be an actual, but not a sensuous, fact. And to realize courage, or any other virtue, in one's own conduct is a more vivid realization than to witness it in others. Moreover, some measure of personal experience of its realization in one's own conduct is requisite for fully appreciating either the exhibition of courage by others, or the language in which courage has been described, inculcated, praised through the ages. We are here returning to the point about *first-hand* acquaintance with meanings actually realized. One has to be actively moral oneself in order both to understand the language in which the moral traditions of humanity have been expressed, and to know (judge with conviction) that moral ideas are not "mere" ideas but do qualify the real, *i.e.*, that men exist and actions occur which are characterized by moral qualities.

I have, I fear, already exceeded somewhat the limits allowed nowadays for a paper in our *Proceedings*. But there are two points in the traditional, as well as in the current, discussion of the ontological argument on which, in conclusion, I should like briefly to comment.

(a) "There is no being," said Hume, "whose non-existence implies a contradiction." Is this true or is it not? The answer, I suggest, depends once more on the *context* in which we interpret the meaning of the words; or, to put it differently, on the context in which we make the "ideal experiment" of supposing the non-existence of some existent being. Personally,

whenever I try the experiment, I find the result to be that I cannot suppose the non-existence of any actual being whilst at the same time holding to the existence of the rest of the actual world. The attempt brings me into flat conflict with the law of sufficient reason. For example, I cannot suppose the non-existence of Christ, without extending the supposition to all that has sprung from Christ's life and teaching, and, again, to all that has led up to them. The elements of the actual world are so interrelated, that to suppose the web changed in one particular forces us to suppose it changed in others, nor can we arbitrarily arrest this process at one point rather than at another. Thus, to isolate some one existent and to suppose it non-existent brings us into contradiction with the rest of what exists, unless we deny first the law of sufficient reason.

But (b) it may be said, "Granted that the supposition of the non-existence of any one actual existent implies the non-existence of the whole actual world, why not accept this consequence and suppose the non-existence of all that is, has been, or will be actual? What is to forbid us to suppose the non-existence of this actual world or, indeed, of any world at all?" To some such question Taylor apparently challenges the defenders of the ontological argument to reply when he holds them to be "committed to the attempt to prove that it is irrational to suppose that there might have existed nothing at all."* From the point of view developed in the preceding pages, we shall reply, once again, by asking in what context these words can bear an intelligible meaning. Does "non-existence of anything" (or "existence of nothing") bear any meaning at all concerning which "rational" supposition is possible? It seems to be common ground nowadays even among philosophers who otherwise disagree profoundly, that terms like "nothing," "other," etc., cannot

* *Encyclopedia of Religion and Ethics*, vol. xii, p. 278a.

be used in an absolute, but only in a relative, sense. From the point of view of this paper, the basis of all thinking and all significant speech is experience as the union of "that" and. "what," "this" and "such," "existence" and "essence." Any words the meaning of which, if it could be realized, would cancel this very basis and condition of all meaning are meaningless. Hence, the task of reason in the sphere of ontology is to discover and appreciate the character of rationality in the actual world of our experience, but not to prove that anything must exist rather than nothing, or that this world must exist rather than any other.

III.—THE ONE AND THE MANY.

By GERALD CATOR.

THE universality of ideas has two aspects which may be called universality in representation* and universality in predication. By universality in predication is meant the aptness of an idea to be realized in a number of instances as "triangle" in ABC, DEF, etc., or "man" in Smith, Jones, and Robinson. By universality in representation, which might be called internal universality, is meant the capacity of an idea to represent a plurality within its oneness as "man" binds together the various notes of man. As it is with universality of representation alone, that I shall be concerned, in this paper, I shall not trouble to distinguish it nominally henceforward, and shall speak of universals, and universal ideas, meaning always universals of representation.

The paper is as will be seen divided into three parts, the first of which, according to my intention, constitutes the body

* The following, from the *Summa Contra Gentiles* (Lib. 2, cap. 98), at once illustrates the meaning of universality of representation, and gives a succinct account of St. Thomas's synthesis :—

"Quanto autem aliqua substantia separata est superior, tanto ejus naturæ est Divinæ natura similior et ideo est minus contracta utpote propinquius accedens adens universale, perfectum et bonum . . . et ideo similitudines intelligibiles in substantia superior existentes sunt minus multiplicatæ et magis universales. Et hoc est quod Dionysius dicit, quod angeli superiores habent scientiam magis universalem et in libro *de Causis* dicitur quod intelligentiæ superiores habent formas magis universales. Summum autem hujusmodi universalitatis est in Deo, qui per unum, scil. per suum essentiam, omnia cognoscit; infimum autem in intellectu humano qui ad unumquodque intelligibile indiget specie intelligibile propria et ei coadequata." (Lib. IV, cap. XI, is also important.)

of the paper, while the second and third are to be regarded as appendices.

Part I attempts to challenge our possession of universal ideas and to submit an account of the source of our illusion that we have them. Any claim I can make to any degree of originality must be based on this part. The easiest and most natural way to account for our belief that we do sometimes at least make genuine logical judgments, as distinguished from compositions of representations, is to suppose that our belief corresponds to the fact, that genuine judgments such as $7+5=12$ occur as dated events in the experience of some men. This I deny saying that nobody ever has *judged* $7+5=12$ or ever will.*

In Part II I dwell on some of the causes why the demand that the human spirit shall rest in the situation determined for it in Part I can not be regarded as "practical politics." Now a man might be prepared in all good faith to testify that he saw A. B. at a certain time and place, and yet if afterwards made aware that very grave consequences depended on his evidence, might reasonably enough be unwilling definitely to exclude some alternative hypothesis as, *e.g.*, the hypothesis of a twin brother.

In Part III I try to show that genuine ideas of the most rudimentary type will be very like our convergence effect illusion "ideas" and can be fitted as a limiting case, as occurring in the mind of man (supposing man to be only just on the threshold of the intellectual order) within a thoroughgoing idealist construction of reality.

We are then not in a position to swear that our world is not within such a construction, and therefore the considera-

* Cf. Bosanquet, *Meeting of Extremes in Contemporary Philosophy*, p. 104. (Eternal novelty = eternal-temporal = eternal-not-eternal.) My point is that eternal novelty in the judgment is at once indispensable and impossible.

tions adduced in Part II may be allowed to turn the scale in favour of this alternative.

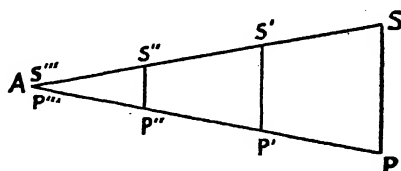
I. *The Convergence Illusion Effect.*

This effect is what I rely on in this part to explain the apparent presence of universal ideas to our minds. It will be seen that the entities so generated are properly described as illusions because they depend on a promise, which can never be carried out, to combine impossibles. The convergence illusion effect rests on a fallacious employment of the canon of concomitant variations in a negative form. It may be formulated thus: If one of two conjoined characters can vary indefinitely in degree without the other varying at all, then the occurrence of the second does not depend on the occurrence of the first, and the second may continue to occur when the first has been diminished to zero.

The two characters I have in mind are "difference" and "distinctness," and as regards these the fallacious argument leads up to the conclusion that characters, qualities, attributes, etc., may not be different and yet be distinct.

By distinct I mean appropriate and unconfused. By different I mean adverse in some relation and in a state of at least vestigial rivalry. God's justice and his mercy are in this sense distinct without being different from one another. This realization of distinctness without difference can only be achieved in a true universal, such universals are essential to true knowledge and we lack them.

(a) By way of diagrammatic illustration of the convergence illusion effect take this figure. It might be advanced that as



S is no more distinct from P, than S' from P' (and so on with S'' and P'', etc.), therefore the distinctness of S from P is no function of their separateness (difference) and that therefore when the separateness vanishes in A the distinctness may survive. The point A, as containing a respect towards S, and a respect towards P is affected by a vestigial duality which assists this illusion. Thus is simulated a true universal SP of which each member is equal to the whole and the whole wholly contained in every part.

(b) Some extracts from a discussion (Rosanquet, *Logic*, vol. ii, p. 226) of Whewell's claim to have attained an *a priori* intuition of Dalton's law will serve to illustrate my suggestion in connexion with the closely related if not identical question of judgments at once necessary and synthetic. Was Whewell able to bring the law (the just discovered empirical law) so *bona fide* under the principle as to see the one in the other, *i.e.*, as so related that a sufficient intelligence by the mere intending of the mind on the principle could make it blossom out into the law? Or, is the principle read into the law after the event, *i.e.*, is the principle first enriched by the law, then the law seen in the enriched principle? "Some such process as the above, which is obviously a mediate inference from matters of fact *combined with* (my italics) a formal principle about quantity, constantly follows on the discovery of a law. We are apt then tacitly to presuppose the matters of fact and to identify the new law with the formal principle which it interprets."

"It is said that men always begin by denying a new truth and then say that they knew it before. This is simply that the material interpretation or development of an accepted abstract principle is at first strange to them and they resist it; but when they have understood it, they pass it over into the old formal principle, identify the two, and deny that they have made any advance." My view is that the necessity of the principle is *imputed to*, not *seen in*, the law, that the synthetic and necessary is a palimpsest of the synthetic over the necessary and not a

genuine union of them. If we purified the connexion S...P from irrelevancies we should find it shrivel into A is A.

I think that the apparent unity of a thing, such as a lump of sugar, is produced by the operation of the convergence illusion, also the unity of a system such as a philosophy, but I have no space to spend on a further discussion. Our experience seems to me to confirm the account of distinctness within unity which I have given. It is always something just about to be achieved never actually reached, a promise which never matures. It is something which our experience leads up to without ever reaching it.

Change seems to me to afford a test case: "Can we," as our President has claimed in this session's inaugural address (p. 4), "imagine an awareness of all nature as a process, although no process is implicated in the mode of awareness," or is Mr. Bradley (*Appearance*, p. 51) a better psychologist in maintaining that succession cannot come in any sense before the mind "without some actual succession entering into the very apprehension . . . if you mean a lapse, then how, except in the form of some actual mental transition is it to come ideally before your mind." Similarly, I contend that we cannot think of distinctness without some actual mental distraction entering into the apprehension of it. We found, says Mr. Bradley, "that succession required both diversity and unity. These could not intelligibly be combined, and their union was a mere junction, with oscillation of emphasis from one aspect to the other." These words I make my own as applied to the union of the one and the many.*

* Volkman (*Lehrbuch der Psychologie*, vol. ii). "What we call the judgment is really the actual process of judging, and we characterize the product as a judgment because we continue to repeat the process in the product if only by a sort of indication" (p. 269), also p. 291.

"The products of our actual thought always lag behind the ideal demands of Logic . . . the thought process never ceases to be a process and what logic points to as the product is strictly only *the goal towards which the process continually approaches without ever reaching it.*" The words italicized (by me) are the germ of the argument advanced here.

II.

Although it would be quite impossible to go too far in dwelling on the intellectually ruinous consequences of a successful attack on our claim to the possession of universal ideas, since these consequences could be summed up without exaggeration in the one word "nihilism," I do not propose to dwell at length on this aspect of the matter chiefly because I am convinced that no logical refutation of scepticism can be obtained on this basis. By a logical refutation I mean one depending on the principle of contradiction, in which it would be shown that who says A must go on to say B under pain of unsaying A, so that in fact in saying A the sayer has already committed himself to B since the A which he has said is A—B.

Whoever has experience must have ideas, since experience involves ideas; but we have experience. Therefore sounds conclusive enough but it is not really conclusive because "experience" in the major is used in a technical sense, in a sense, for example, in which we should be required to deny experience to the animals, while in the minor "experience" is used in a vague sense, in which the affirmation of our possession of it is as irrefutable as it is useless. It is never possible to smash an argument by bringing forward fact or testimony, because there is always an element of interpretation in the nakedest fact. The argument from *esse* to *posse* can always be countered by the argument from *non-posse* to *non-esse*, no amount of experience can prove an impossibility to be a fact. Descartes's "Cogito ergo sum" is no more conclusive as to existence than Dr. Johnson's "We know we're free" is as to freedom. This impossibility, I may observe in passing, of bringing theory to bear on any facts we can produce, or of producing any facts which theory can take hold of, is itself a further proof of the thesis of Part I because it shows that facts are never related to theory as its differences to a universal. If

they were really incorporated into their theory it would not be possible to separate them from it.

* * * * *

What immediately follows is only intended to assist to bring home how much more easy and natural it is to give a faithful and loyal account of our human experience at its ripest and best in terms of a world which has an ideal world as its background, in order to emphasize the contrast between the futility and impotence of our intellectual achievement and the insistence and boundlessness of our intellectual aspirations.

"In the search for truth, in the love of beauty, in the devotion to right," says an eloquent and able writer,* "are we not finding in the scheme of things something that we did not create but which is calling us into conscious fellowship with itself? . . . as we realize our relations with goodness, beauty and truth, we are conscious not only of a thrust from below but of a call from above, and can understand the language of those who declared the human soul to be akin to the heavens and to have there its true and only home."

"Hardly anyone can remain *entirely* optimistic," says William James, "after reading the confession of the murder at Brockton the other day—how, to get rid of the wife whose continued existence bored him, he enveigled her into a desert spot, shot her four times, and then as she lay on the ground and said to him, 'you didn't do it on purpose, did you dear?' replied 'No, I didn't do it on purpose,' as he raised a rock and smashed her skull. Such an occurrence, with the mild sentence and self-satisfaction of the prisoner is a field for a crop of regrets which one need not take up in detail. We feel that though a perfect *mechanical* fit with the rest of the universe it is a bad *moral* fit (that it) . . . virtually determines the universe as a place where what *ought* to be is *impossible*."† I quote this passage

* Wicksteed, *Reactions*, p. 448.

† Quoted at second-hand from *Maher's Psychology*, p. 401.

because it excites a state of mind towards another world than this, which if it is something *less* than a state of belief, is equally something *more* than a state of desire.

Dr. Bosanquet,* than whom no one surely is less likely to lower the standard of the finest and ripest reason at the bidding of desire, discusses what he calls the material postulates of knowledge. "We unquestionably expect something more of the world than a capability of being known according to the law of sufficient reason." . . . "It would be hard to believe for example in the likelihood of a catastrophe which should overwhelm a progressive civilization like that of modern Europe, and its colonies, so that the history of the world would have to be begun anew, without any influence at any time arising by rediscovery of remains, from the prior civilization." . . . "It appears to me that the real root of our conviction is ethical, and ultimately depends on our confidence in the relation of our purposes to the scheme of the universe. Such an ethical conviction is not a *πρὸ στω* outside our knowledge, but it is the very core of almost all that knowledge on which our distinctively human life essentially depends." I cannot allow myself to quote more extracts from this interesting chapter, but may it be permitted to me, without seeming to wish to dictate the course of the discussion, to invite comments on Bosanquet's attitude. It is obvious I think that the refusal to believe *on such grounds, as he indicates*, in the possibility of a civilization-overwhelming catastrophe is at the mercy of a narrowly rationalistic criticism.

All the phenomena of the higher life of reason and of rational emotion fit very uneasily into any world other than one in which absolute values reign. Amongst such phenomena are: the compelling attraction for many minds of speculative philosophy of the Platonic type, the testimony of mystics—very little less concordant than the testimony of common-sense to matters within its ambit; the appeal of such poetry as some of

* *Logic*, vol. ii, 216.

Wordsworth's, and no doubt of music to those who are fortunate enough to be open to its influence; all these facts strongly suggest another "world" pressing to gain access to our consciousness.

" Just when we are safest, there's a sunset touch,
A fancy from a flower-bell, someone's death,
A chorus ending from Euripides,—
And that's enough for fifty hopes and fears
As new and old at once as Nature's self,
To rap and knock and enter in our soul."*

I conclude this part by recalling once more its place in my general plan, namely, to show how much more easy and natural (I might almost appeal to Dr. Wrinch's 'Postulate of Simplicity'), what may in a broad sense be called an idealistic construction of experience is than one which attempts to forego any such flights. Granted, as I am prepared to grant, that in a certain sense the nihilistic hypothesis is rational and adequate to deal with the facts which *must* be dealt with: yet an hypothesis which is able to accommodate these same facts no less adequately, and which is also able to satisfy our rational aspirations, is surely entitled to some degree of preference.

III.

We should have to call an hypothesis true about a fact or group of facts if it were able to re-generate these facts, so that the objected facts and the hypothesis-generated facts fused together and became identified. As a result of this fusion the objected facts would appropriate the content of the hypothesis as *their* extension, while the content of the hypothesis would appropriate the realness of the given as *its* realness. This condition is never, in my opinion, actually attained: what happens is that at a certain degree of approximation in content the attraction between the two sets of facts *breaks down* the

* Browning, *Bishop Blougram's Apology*.

subject's discerning power and fusion takes place inevitably for this subject, but none the less, genuine identification is never effected. The conclusion "these facts involve this hypothesis" is always jumped to. The objected facts about which an hypothesis is required, in the present question, are (a) the intellectual nullity of our ideas, as argued in Part I, and (b) the boundlessness of our intellectual aspirations as briefly suggested in Part II.

The great merit of the Thomist Epistemology,* as it appeals to me, is that it provides *one* hypothesis, which by one and the same movement faithfully regenerates *both* these *prima facie* conflicting facts, so that they become mutually corroborative, and conspire to support the same hypothesis. The exception becomes an instance.

The Thomist hypothesis is, that perfect intellection is an activity which combines perfectly and in their perfection certain characters (self-possession, aseity, amplitude of being, immanence, exteriorization), that the degree of imperfection of imperfect intellection is measured by the degree of absence of these characters, which all vary *pari passu*, that in order to carry out this perfection or this imperfection in detail a certain form must be imposed on the content known, so that the content of the world objected to any intelligence is *a function of the position of that intelligence in the hierarchy of intelligences*. Thus, e.g., the human intelligence to maintain its character

* *L'intellectualisme de St. Thomas*, par Pierre Rousselot (Alcan, Paris, 1908). This book is the source of three-fourths of the ideas in this part, and of many of the citations. In my opinion, as an exposition of what Scholasticism can rise to at its best it stands absolutely in a class by itself. For convenience I refer to it by R and a page number, followed sometimes by a T, to indicate that Rousselot is quoting St. Thomas. Next after Rousselot I owe my information to Kleutgen, *La Philosophie Scolastique exposée et défendue*, 4 vols. (trans. from German); and lastly, I must mention Wicksteed's *Reactions between Dogma and Philosophy*. I cannot claim to be more than a dipper into St. Thomas on my own account.

must be distracted by the two multiplicities of time and space. Armed with this general theory we are able to read off as a particular case the content of the world corresponding to an intelligence of threshold value. But the intellectual experience of the typical possessor of such an intelligence falls within his world (*i.e.*, his hopes, doubts, aspirations, disappointments, etc., fall within). Comparing these experiences of this hypothetical being with our hopes, doubts, aspirations, etc., we find ourselves unable to refuse to identify this threshold-value intelligence with the human intelligence. That is, our world taken as given, and the world of the lowest possible intelligence taken as constructed, fuse together as described above. Our world identifies itself for us with the world of the lowest possible intelligence, but this world of the lowest possible intelligence is itself a sub-world within and continuous with the truly intelligible, the really real world which is objected to "He who is." Therefore our world, the world of the lowest possible intelligence acting as middle term, becomes mediately identified with the really real world. We deduce, as it were, our darkness out of our lowly place in the hierarchy of intelligences, and then turn our darkness into light, by showing that a darkness possessing just these characters is only possible at such and such a place within a world of light. As a parallel illustrative example—Suppose it could be shown that the existence of God could only be doubted with a certain specific form of doubt within a God-created world, and if in fact the existence of God was doubted in our world with just this specific shade of doubt, then it would follow that our world was a God-created world.

The Thomist notion of intellection (intellection in itself) can, I think, be best conveyed by means of a comparison with Bergson. I make the comparison only for this purpose of illustration, and not at all in order to trail my coat before any Bergsonian present, a proceeding which could only lead to disaster to me. Besides this all the vague ideas I had about

Bergson have been completely disorganised by hearing that he claims for himself, and that Professor Carr admits for him, some sort of affiliation to Hegel. And I took him for a prophet of anti-intellectualism! The reader of Rousselot will find quite a number of passages or phrases which have quite a Bergsonian ring, occurring in relation to the deliberate depreciation of the discursive reason, of its "concretizations," and of its "solidifications." Take the following passage (R., xix): "Intellection in us is never perfect and pure because it can only act under the shadow of time and space," again (R., xx) "He (St. Thomas) teaches that the terrestrial condition of our understanding, as reflected in our language, imposes on us these animal deformations, and that, even though we can condemn them by reflexion, our conceptions can never here below free themselves of them." "To solidify is for him the characteristic fault (*la tare essentielle*) of our reason, but it is also the necessary condition of its exercise." But if St. Thomas and Bergson appear to agree so far it is quite otherwise when we ask in what direction they respectively look for the remedy for the deformations imposed on the real, by the limitations of our discursive reason. Bergson says "go back to pre-rational intuition." St. Thomas says "go on to supra-rational intellection." For Bergson reason is the servant and instrument of life: for St. Thomas reason, in its higher form of intellection is itself the supremest, intensest form of life, the crown of life, ("*Supremus et perfectus gradus vitæ*,") and whereas the senses attain the exterior accidents, the intelligence penetrates to the essences ("*Intelligere, quasi intus legere*"). But perhaps, instead of pursuing this comparison further, I can best exhibit what intellection in its purity is by showing how human speculation falls short of the ideal it can neither abandon nor attain; cannot abandon because "every intelligence naturally desires the vision of God" (R., 192, T.), nor attain because "our natural knowledge can only extend so far as it can be supported by sensible things" (R., 83, T.).

Bosanquet makes the following quotation from Kant the starting-point of his treatment of modality:—"Because then in respect of modality everything incorporates itself with the intelligence by degrees, so that one begins by judging problematically, and then takes the matter to be true assertorically, and ultimately affirms it as inseparably united with the intelligence. . . . It follows that one may confer on the three functions of modality the further appellation of so many moments of thought at such." Compare with this: "The more anything is known, the more intimately the knowledge of it is united with the knower. Because the intelligence according as it knows in act proportionately becomes one with the thing known" (R., 5., T.). Anyone may verify this account for himself by observing the striving of his mind in respect of any matter he is really in earnest about knowing. But the sought unity can never be attained under the form of the judgment, because the product of the judgment is incurably affected with duality. Rousselot shows very convincingly that in saying "the definition is identical with the thing" (R., 102) St. Thomas was for once not fully consistent in his Thomism. The ideal definition, the adequate satisfying definition would be one, just as the essence it reconstitutes is one (R., 106), but the definition expressed in a judgment effects only a composition or concretion, a simulated not a true unity.* It has only the unity of a mosaic, or of a succession of kinema pictures. The nature of the activity of the intellect is given in the phrase "*Captatrice de l'être*," capable of absorbing and converting into itself the perfections of its objects. "*Facultas apprehensiva*," like hands, claws, tentacles (R., 25). When scholastics say, as they do, that knowledge is effected by a certain assimilation we should think of the process of digestion. "In a certain manner, all

* Hence for Rousselot the concept thus achieved is merely a *succedaneum* (substitute, makeshift) for the pure idea.

things," "the natural order in potentia,"* are other expressive phrases.

Rousselot's thesis is stated in the following passage in his Introduction: "A first part will explain intellection in itself and how it is essentially a power of incorporating essences (*captatrice de l'être*), and not one of accumulating propositions (*fabricatrice d'énoncées*). A second part will judge according to this standard of the intellectual value of human speculative activity, that is to say, of the multiple operations by which the human mind, almost entirely lacking intuitions but aided by the senses, sets itself to mimic and supply the place of the perfection which it lacks." What is to be noticed is that our ideas are said not to be, but to feign to be, ideas, *succedanea*, substitutes, makeshifts, they ape, imitate, copy ideas. The "Ratio," the discursive, compounding and dividing reason, *fabricatrice d'énoncées*, is the specifically human faculty,† and in its relation to intellect occupies the same relative place as does the animal *vis aestimativa* in relation to the human reason. Though I do not remember having seen the question raised explicitly, I believe I am well justified in laying down as correct Thomist doctrine that man is not merely the lowest existent form of intellectual being but actually the lowest possible. His intellect is said to occupy the same relative place in the

* Maurus is quoted by Kleutgen (vol. i, p. 60) as follows:—"Ex quo apparet mirabilis ac plane divina vis intellectus . . . cognoscendo vero omnia intellectus quodammodo fit omnia, et trahit ad se perfectionem omnium rerum . . . hinc est ut homo præcipue per intellectum sit microcosmus, quia quot species rerum sint in mundo tot possunt poni intentionaliter in intellectu." (R., 48) quotes "ut in ea describatur totus ordo universi" as the natural end of the intelligence.

† "Rationale est differentia animalis, et Deo non convenit nec Angelis" (R., 59, T.). "Necessitas rationis est ex defectu intellectus" (R., 61, T.). "Ratiocinatur homo discurrendo et inquirendo lumine rationali per continuum et tempus adumbrato" (R., 61, T.). St. Thomas, of course, has nothing of the temper of the sceptic in regard to human reason—his criticism of it assigns to it its rights and powers as resolutely as it recognizes its limitations.

scale of intelligences as primary matter (prope nihil) occupies in the whole scale of being. He is on the confine, boundary, horizon of the spiritual order. He has only a small spark of intellectuality. "All the noetic" (says Rousselot) (R. 56) "of St. Thomas is but the development of this idea (of man as the lowest of the intellectual creatures), all his intellectualist theory as applied to man is conditioned by it. It must always be borne in mind. If one forgets this and reads St. Thomas on the supposition of the identity of the human intelligence and of the intelligence *ut sic*, all his system becomes at once childish and self-contradictory."

I had meant to return, before the end of my paper, to the "convergence illusion effect" of my Part I. I think you will easily forgive me if instead I spend my remaining assignment of space to better advantage by quoting at some length the last page of Rousselot's wonderful exposition.

"But the intelligence 'which is its act' is the measure and the ideal of all intellection. The whole critique of knowledge finds its explication in the theory of the Divine Intellection. It is in proportion to their falling short of its unique simplicity that one measures the decreasing perfection of the intuition, the concept, the judgment, the discourse. A being is the more intellectual in proportion as its consciousness is more totalizing—the less intellectual in proportion as its perceptions are multiple. The human soul is at the lowest degree of intellectuality, because its capacity is proportioned to the world it inhabits, because this world is sensible while God does not need sense data. This human world is the world of the indirectly intelligible, of the vaguely conceivable, of the almost true: 'regio dissimilitudinis.' Without doubt this power of compounding and of generalizing, which marks us as the lowest of the intellectual creatures, also makes us capable of creating these assemblages of notions—sciences, systems, symbols—which strive to approximate to the pure idea, without ever attaining its force and clearness. But these simulacra satisfy us but

badly The Christian life seems to have developed correlatively, in the soul of St. Thomas, enthusiasm for the intelligence and scorn for human ratiocinations. He did not then repudiate his intellectualism, he only applied it, in those last days of his life when* he 'laid aside the instruments of writing' and gave himself up to contemplation. The Summa is unfinished and his companion urges him to take up his pen once more. 'Raynald, I cannot: because all that I have written seems to me now like straw.' One may, says Rousselot, see in these last words an exact formula of his intellectualism."

* After some mystical experience.

*Meeting of the Aristotelian Society, at 21, Gower Street, W.C. 1,
on December 18th, 1922, at 8 P.M.*

IV.—THE DOUBLE-KNOWLEDGE APPROACH TO THE MIND-BODY PROBLEM.

By ROY WOOD SELLARS.

IN the present paper my aim is to sketch in broad outline a solution of the traditional mind-body problem and to indicate certain of its more interesting implications. The suggested solution is based upon a theory of knowledge called Critical Realism and a theory of evolution, asserting levels of behaviour and of properties, which I have called Evolutionary Naturalism. I doubt that my argument can be followed with full comprehension unless these two phases are kept in mind. Yet they must be in large measure assumed because of the necessary limitations of a paper.

It has become increasingly evident to those for whom philosophy is more than a dialectic of words or of ready-made concepts that the terms of this traditional puzzle need thorough investigation and re-definition. The suspicion is arising that the conventional metaphysical dualism is a product of wrong assumptions, that the organism includes in some fashion both mind and consciousness. But to work out the idea underlying this suspicion and to develop its implications is not an easy task. Nothing short of a system of philosophy is involved. It is my persuasion that the problem is a technical one and cannot be solved—though it may be aided—by the drift of thought. It is with the technicalities as such that I shall concern myself in what follows.

As I try to bring before my mind the dominant positions taken with regard to this problem, they seem to resolve themselves into four classes: (1) idealistic, (2) behaviouristic, (3) dualistic, and (4) naturalistic.

The idealistic group have this in common that they do not take the physical world and its categories seriously. The

behaviouristic group tend to ignore, or belittle, consciousness or the subjective. And this either because, for them, science means study by means of external observation (Watson), or because they have turned their back hopelessly on the problems raised by the subjective (Dewey). The dualistic position has been the traditional one of psychology, but we must remember that few psychologists held it as an ultimate philosophical position. It was less a solution than a methodological position. But metaphysical dualism is represented to-day by Bergson, Pratt, Sheldon and others. The naturalistic group are seeking to conceive mind and consciousness as elements and properties of the organism to be correlated with the level of organization and behaviour there attained. It is within this group that I find myself.

I.

As I pointed out in my *Evolutionary Naturalism*, there have been at least *four* motives at work leading to the traditional exclusion of mind and consciousness from the organism, the epistemological, the categorical, the methodological, and the theological. Though logically distinct, they have always re-enforced one another. To point out the erroneous character of these motives for dualism and to show that the conclusion usually drawn does not logically follow constituted an essential step in my argument.

The epistemological motive for dualism expresses itself in the assumption that the physical world is *exhaustively* revealed in the knowledge gained by the physical sciences. Basically, the mistake rests on a misinterpretation of the nature and reach of knowledge. Thus Descartes held that extension is the "essence" of matter. In his arguments against a "cerebral soul" Bergson employs much the same tactics, though with the greater subtlety that idealism has made possible. His prime mistake seems to be a misunderstanding of space as a category of knowledge. Even a valid category does not

give the "essence" of the object known but only an approximation of its form or order. Many philosophically inclined scientists have begun to express this fact by saying that we know only relations. In various places, I have tried to show that a critical correspondence theory can be framed that avoids all valid objections to Locke's still scholastic formulation.

Now the important point in this connexion is that the assumption that a body is exhaustively apprehended in the categories of physical sciences leads inevitably to dualism because consciousness cannot be found in the object thus supposedly penetratively intuited. It must, therefore, be assigned to a separate realm. And, since mind and consciousness go together, mind must be held distinct from the physical world at whatever level. But is it not clear that a determination of the *reach* and *character* of the knowledge gained by the physical sciences is an essential element in a correct approach to the mind-body problem?

The categorical motive expresses the disparity between the categories which characterize the content of the knowledge gained by the physical sciences, and the categories of introspective psychology. Mass, energy, space, size, shape, behaviour are categories intrinsic to the one; while those of content, fusion, association, recall and attention are distinctive of the other. And allied with this disparity has been the contrast between the mechanical and the teleological. The dominant effort in the past was to draw the whole of nature into the categories of mechanics. To do this for mind seemed impossible. It was, therefore, allowed to rest under the contrasting principle of teleology, seldom analysed. Thus the categorical motive gave further encouragement to the dualism suggested by the epistemological motive.

The methodological motive reflects the methods and interests of the physical sciences in contrast to introspective psychology. It continues the categorical motive. The purpose of the one is knowledge of *bodies* by means of external observation and the

technique of measurement. Only certain data are selected as significant, and these are interpreted as means to knowledge about bodies. The different method of introspective psychology separated it from the physical sciences. Clearly the objects of the two types of science are in some sense different. Thus a division of labour and a difference of method supplements and encourages the dualism suggested by the first two motives.

Finally, the theological motive was influential from the beginning of modern philosophy. The soul-concept suggested the notion of a spiritual substance co-equal with matter and having consciousness as its attribute. This motive must be regarded as technically secondary.

How can these motives be met and turned aside? My argument is, that two kinds and directions of knowledge separate for the knower the indissolubly connected. Let me put the situation as I understand it. Suppose consciousness were in the brain as a changing flow of *quales*, and that, in it and by it, the individual had knowledge about the brain, on the one hand, and of it, on the other; would not the situation be exactly that indicated by the above motives? We should expect the categories of the two kinds of knowledge to differ fundamentally and, if the first kind of knowledge were regarded as entirely penetrative, we should be led into dualism.

Now Critical Realism expresses an analysis of the content and nature of scientific knowledge which enforces the distinction between knowledge and its object. An external object can be known by means of the subjective. And the conclusion, in brief, is that such knowledge is necessarily limited to a comprehension of the structure, connexions, composition and behaviour of the bodies studied. Thus the knowledge gained by physical science is inevitably *external to its object* in this sense that it can grasp only those characteristics which are reproducible in another medium (order or form) and that it cannot reach a literal intuition of, or participation in,

the life or energies of the thing known. But, on the contrary, within this subjective medium, knowledge of its own content can arise. Here we have the two kinds and directions of knowledge.

If this interpretation of knowledge is correct, the epistemological motive for metaphysical dualism is undermined. Science cannot offer us that inspection of the "filling" of bodies which alone could enable us dogmatically to assert that consciousness is not in the brain. The categorical motive is, likewise, re-interpreted by this approach. Does it not simply indicate that these two kinds of knowledge cannot have *equivalent* objects? This lack of simple equivalence is explicable by the difference in nature and reach of the two kinds of knowledge. The one arises in the "filling" of the brain and inspects *qualia* there present; the other deciphers the characteristics of the brain as a body by means of the cognitive value of certain sense-data. It is because consciousness is not a "thing," or "stuff," but a structured complex of *qualia* that a relation of partial identity, or inclusion, can be conceived—a relation which harmonizes with the demands of the categorical motive. Thus it is only by doing justice to both sets of categories and to the two kinds of objects of the two kinds of knowledge that a solution of the mind-body problem is made possible.

This solution is not a "philosophical" one in the sense of philosophy so much disliked by science, but one which expresses science itself and is demanded by its content and methods. Physical science deals with the *whole* of reality at any one place, as this can be studied by its methods and through the use of sense-data. It deals with order and quantity as these characterize "space-constituting bodies." But consciousness is a system of *qualia* open to inspective examination and clearly internal to one of these bodies, the brain. In my consciousness, I am literally a *participant* in that brain which physical science can know only by a descriptive translation.

Our definite epistemology thus enables us to do justice to an existential situation which was felt, and hinted at, by the so-called double-aspect theory. But what a world of obscurity there was in this term *aspect*? More analysis was needed. The "aspects" had to be related to the two kinds and directions of knowledge in order to be more than a metaphor from common-sense realism; and consciousness—not an "aspect" but an object of knowledge—had to be conceived as existentially included in the brain, the object of physical science. *Epistemologically*, the situation is one of two kinds of knowledge and two kinds of objects corresponding to them; *existentially*, a relation of inclusion between these two kinds of objects. And it is just because consciousness is a complex of *quales* that this existential relation is conceivable. But more of that later.

Another distinction is now in order. Let us speak of "mind" as a term for a class of operations. Ultimately, mind must be enlarged to include a class of operations, that which expresses itself in these operations, and consciousness. Consciousness is included in mind, just as it is included in the brain.

As to the second part of the categorical motive, an asserted difference of *mode of action*, is it so certain that the brain is a mechanical system? "Mind" is for the behaviourist a physical category. It is the organism which, through the nervous system, behaves intelligently, adjusts itself to novel situations, forms habits, etc. Thus there is an identity between the character of the action of the brain and the character of the action of the mind as known by introspection. If we speak of mind as a term for operations, these operations are thus known in two ways. The changes in my consciousness are *indices of operations* known about through behaviour also. Since in my consciousness I participate in the brain-mind, this kind of knowledge has even an advantage over the other and certainly supplements it. To sum up, the capacities of the brain-mind

are known (1) through the use of sense-data in external observations, (2) through the use of states of consciousness as indices of operations in which they participate. Besides this knowledge, there is also the awareness of the contents of consciousness, the condition of both kinds of knowledge.

The methodological motive, again, indicates that both bodies and consciousness can be objects of study and that different methods are used in the two cases. The danger has been that of identifying the whole of reality with the content of knowledge gained by either of these two kinds of knowledge. In the one case, we have materialism; in the other, panpsychism and idealism. Specialism and an inadequate epistemology have worked hand in hand.

The theological motive is not self-supporting and is logically secondary. I shall disregard it in the present paper.

II.

Thus far we have given an exposition of the motives which have mistakenly led to a mind-body dualism and our reasons for regarding them as either erroneous or wrongly interpreted. Let us now try to consolidate our results.

(1) Mind is a term which has been employed rather vaguely and waveringly in the past for (a) consciousness, (b) a class of operations, (c) that which expresses itself in these operations and this consciousness. My argument is that the brain can be regarded as the object of all this knowledge, that is, as inclusive of consciousness, and that which expresses itself in this class of operations. In the larger setting, however, it is best to speak of the brain as the brain-mind. This combination does justice to the two kinds of knowledge. Brain is the natural term for the physical sciences, while mind has more affiliations with consciousness and introspection. The union of the two terms indicates that there is no dualism of existence corresponding to the doubleness of knowledge, and that it is one body that is

known in this supplementary fashion. Thus against Bergson I would defend the cerebral-soul.*

It is very important to realize this doubleness of our knowledge of the brain-mind, for certain philosophers have argued to dualism by affirming positively what the physical world cannot do.† It is said that one physical thing cannot know another, or have memory of the past. But are not those who stress these supposed limitations of the physical world but limiting the physical world to the kind of knowledge gained by the sciences of external observation? Change of behaviour as a result of past stimuli and responses is all that observation can give as regards memory; and an attitude of attention is the external correlate of knowledge. The point is that, valid and significant as the one kind of knowledge is, it is not exhaustive of its object. In Sheldon's argument there is, likewise, the epistemological postulate that knowledge involves the literal presence of the object known—a postulate the critical realist denies—and so an existence in two places at once, that of the knower and that of the object, a property impossible to a physical body. This argument of Sheldon's is no stronger than his epistemology. Does knowledge involve this literal doubleness of position, this straddling of space? Once we distinguish between the content and the object of knowledge, this *pseudo*-problem vanishes.

Our conclusion is as follows: the opposition, made popular by Bergson, between the brain as merely a system of habits and the mind as memory is not justified. Leaving aside the question of novel cerebral response, the Bergsonian opposition can be interpreted just as easily and more naturally by the double-knowledge theory. Memory in the psychological sense is a participative act which we know from the inside *because we are*

* See *Evolutionary Naturalism*, pp. 305-6, and Bergson's *Mind-Energy*, p. 244 f.

† I refer particularly to Sheldon. See *The Philosophical Review*, March, 1922.

consciousness. Far less of this capacity of the brain is revealed to a knowledge mediated by sense-data. The moral is, Let us not underestimate the brain and the physical world in general. Valuable as is the knowledge gained through the cognitive use of sense-data, it is undeniable that in consciousness the individual is on the inside of his brain and a participant. Consciousness, as an index of operations, reveals in some measure the formation of habit, the growth of expertness, the degree and facility of attention, the formation of a novel synthesis, etc.

(2) Mind must be conceived more substantialistically than has been the custom in empirical psychology. It is more than consciousness and inclusive of it. It is that which functions in memory, reasoning, inclination, etc. It is a system, a reality of a tremendously complex sort, a product of evolution and of individual development. Its growth is one of cumulative change. As a system it is only intermittently conscious in the strict, empirical sense. Such is my conception of the brain-mind or cerebral soul.

(3) One of my critics* has contended that I have made no advance upon materialism because, for me, mind is subjected to physical laws. Such a criticism shows a refusal to see that, for me, the physical world evolves to the mental level in the content and action of the brain. And laws are but descriptions of how systems operate; they are not controlling forces. I affirm an agreement, and not a contradiction, between the two kinds of knowledge of the brain-mind. If this position is true, it rings the death-knell of strict mechanical atomism, for it shows that, at a high level, syntheses of a most intimate sort do arise and function effectively in nature. The unity and complexity of consciousness is an index of the synthetic unity and interpenetration of the brain-mind. As participants in the brain-mind through consciousness, we come to know this. Thus psychology can throw light upon the physical world. Only the

* Pratt, *Journal of Philosophy*, June, 1922.

dualistic tradition has prevented scientists themselves from grasping this implication. If this equal recognition of the information given us by the physical and the mental sciences be materialism, it is not of the familiar kind. The essence of materialism seems to me to be the interpretation of nature in terms of the knowledge gained by external observation alone. Consciousness and mind are, then, adjuncts which must, and yet which cannot be fitted in afterwards. A division of labour among the sciences has been interpreted metaphysically.

(4) Consciousness is a structural complex of *quales* com-present in a way that reflects the operation of the brain-mind. Awareness is an experience expressive of the internal relations of such a consciousness. In consciousness, the conscious self arises. It is, also, the seat and medium of overt knowledge. But this very pre-eminence of consciousness for us, as our sole participation in reality as conscious beings, forces it into relief and necessarily isolates it for us from its existential setting. Of its setting we can have only knowledge of structure and behaviour.

III.

Our most difficult categorical problems arise when we try to comprehend the connexion of consciousness with the brain-mind. And it is clear that the question of the efficacy of consciousness is intimately bound up with the question of the nature and existential setting of consciousness. The traditional dualism denies the sort of existential unity for which I have been arguing. Hence efficacy meant interaction between distinct bodies. As to the laws of this interaction between disparate entities nothing was known nor could be surmised. On the contrary, we shall seek the *function* which consciousness can perform in accordance with its nature. We must begin with a few distinctions:—

(1) Consciousness must be distinguished from its elements. Let us call the elements of consciousness the psychical.

(2) Two questions now arise. How far is it true that a psychical element exists only in consciousness? If the psychical can exist in some measure apart from the complex whole which is consciousness, to what degree is it modified in its entrance into consciousness? It is obvious that we can make only suggestions here. I am inclined to maintain the relative independence of the psychical. At least something like a psychical element can exist as a *quale* apart from consciousness. It is developed, interpreted and *inspected* in consciousness.

(3) The simplest form of the brain-mind-consciousness problem is that of the setting of a psychical element, like an image or a sensation, in the brain-mind. Such an element must be thought of as a *quale* being its own intrinsic nature.

(4) From such a *quale*, we must remove all features or attitudes which come from consciousness as a whole. A psychical element contains no self-awareness. Our problem, reduced to its simplest terms, becomes this: How shall we conceive the relation of an *intrinsic quale*, like a colour or a pain, to the brain-mind?

(5) We must distinguish between a *quale* and a quality. A quality of a thing implies the operation of perception. It involves the assignment of a *quale* to an affirmed object and implies the operation of the whole mechanism of sense-perception. But a *quale* is what makes the thought of a quality possible. To assert that the *quale* red is a character intrinsic existentially to the brain does not mean that the brain as an object of perception is red. This is still more evident in the case of those *quales*, like pain, that are not used as qualities. Critical realism comes to our help here.

(6) A *quale* is not an entity in the same sense that a body is. Everything points to the hypothesis that a *quale* is not self-sufficient but is a trait of something more substantial. Its apparent independence and isolation comes from the cognitive situation. It is, as we have pointed out, the only phase

of the brain which we as conscious beings *are*. It is our participation in reality. And this situation isolates what is existentially inseparable. It gives an apparent substantiality and independence to what is not substantial and independent. It lures us to make consciousness a substance and we succeed only in making it a will o' the wisp. We must set our face sternly against this natural illusion. We must bring knowledge of the whole situation to our assistance.

Having made these distinctions, we are now in a position to conceive the connexion of the psychical and of consciousness with the brain-mind.

The relation of inclusion for which we are searching is obviously a more subtle one than that of whole and part in the ordinary categories of scientific knowledge, and yet analogous. We have to relate the object of one kind of knowledge to the object of another kind, or, rather, conceive how they are actually related. The psychical is not stuff and is not space-constituting. But it is just because of this that it can exist in a body. Just because it is not space-constituting, it can be space-permeating. Hitherto, to exist in space has always meant to occupy a place exclusively and therefore to be a measurable and ponderable body. We must enlarge our notion of existence in space. Let it be remembered that space, as such, is an abstraction. If, then, bodies constitute space, whatever is internal to bodies and constitutes their nature must be spatial in a very real sense.

But to make my view clear there is need of another category which I shall call the *content of being*. We are too prone to think of the physical world abstractly in terms of our external knowledge of it, and to forget that there must be a content or stuff which has this order and which does so behave. Let us remember that scientific knowledge can never offer us a literal glimpse of the content of being. That remains a dimension, so to speak, which knowledge mediated

by sense-data cannot enter. The very character of our valid knowledge of the physical world—the slow deciphering of its structure and behaviour through the cues given in sense-perception—implies its limitations. Such knowledge, valid as it is for the *characteristics* of physical things, must be external. It is always other than an intuition of, or participation in, its object. Does it not seem plausible to hold that the *quales* which we call psychical are traits of the “content of being” as intrinsic and inalienable as those characteristics which we know as structure and organization. This means that the physical world is not qualitatively empty. But quality in this sense is not a surface feature which can be inspected from outside as naive realism supposes, misled by the mechanism of sense-perception, but an internal *quale* which is a dimension of what is structured, something which can be given only by participation. It seems to me evident that something of this sort is implied by the facts and by the double-knowledge approach suggested by Critical Realism. A deepening of our metaphysical categories is demanded by the situation. One must realize the nature and the limitations of both kinds of knowledge before a synthesis is possible.

If, then, the psychical belongs to the qualitative dimension of being, grasped only by participation or by analogy, it must not be given a separate existence as a sort of substance which buds off from the brain or which the brain produces. The traditional contrast between the physical and the psychical encouraged such a conception. We must have a deeper conception of these *quales*, or contents, and must think of them as inseparable characters of the brain-mind, whose isolation and abstraction, from their existential matrix, comes from the fact that our consciousness consists of them and cannot include that of which they are a qualitative part. The part cannot include the whole. Hence the part appears to itself to be distinct from the whole. Such is the situation of consciousness in the brain.

The qualitative dimension of the physical world rises to the

level of the psychical with increase of organization. A stimulus is received by a sympathetic medium which responds at one and the same time both quantitatively and qualitatively. The creative novelty of the response contains and involves the *quale* in which the consciousness of the individual participates. As I understand him, Bergson has attempted to pass from the quantitative to the qualitative by the condensation which memory exercises. For me, there is no such opposition. The qualitative is also quantitative. The qualitative is known by participation and the quantitative characteristics of the same cerebral system by external knowledge. Moreover, the condensation of which Bergson speaks is more of the nature of a *response* of the stimulated medium than a mere knitting together of light waves. The correlation I would stress is that between the creative novelty of response and the qualitative dimension of the responding cerebral system. We do not pass from space to time, for these are abstractions if set in opposition to that which is at the same time spatial and temporal.

But it may be well to point out why time seems to be the category expressive of consciousness. The qualitative dimension of the brain-mind changes as the brain-mind functions. Here we are in the literal presence of change, but a change inseparably connected with, and expressive of, the changing brain-mind. If, then, I speak of these *quales* as variants, it is not to deny that the system in which they arise varies. The structure and pattern of the brain-mind must vary coincidentally with consciousness. But the spatial characteristics of the brain-mind are expressed only very dimly in consciousness. Space, as experienced in the content of perception, is a *qualitative order* built up to correspond to the object of perception. It has no significance for the cerebral system of which it is the qualitative expression. One other point, these *quales* come and go much as nervous currents come and go. That which is relatively permanent is the pattern of the brain-mind. Consciousness is evanescent, and yet that of which it is the qualitative

dimension is not evanescent. It is for this reason that nearly the same *qualies* can arise again and again—not numerically the same, but qualitatively the same. May I refer in this connexion to the thesis of Professor Montague. He would identify consciousness with potential energy. Rather must consciousness, it seems to me, be correlated with activity, with what physical science measures as energy.

We come finally to the question of the efficacy of consciousness. What *rôle* in the economy of the brain-mind do these *qualies* play? Here, again, it can be only a question of principles and way of approach.

The brain-mind is an organization of tendencies and memories whose complexity it is difficult for us to conceive. It is certain that the brain-mind is a growth in which central and peripheral processes are united. This means that cortical processes have their motor continuations. My thesis is that mental operations are operations of the brain. And these operations must have their mechanism and medium, so to speak. Association, inhibition, selection, combination are processes which take place in the brain-mind and which fashion its content, set, and functioning. I doubt that nervous anatomy and physiology can throw much light upon these delicate internal processes. I would say that it was more a matter of bio-chemistry. And while I affirm a correspondence between the change of internal cerebral patterns and the mental operation, I doubt that our knowledge will ever be penetrative enough to trace it out. Psychology must work out its own information with confidence. Cerebral laws must harmonize with mental laws. If the response of the mind to a situation is intelligent and creative, so, likewise, must be the response of the brain. Thus there exists in nature a level of causality, of self-determination, which does not easily fit into the traditional interpretation of nature.

The aim of science is to discover *laws*. By the very nature of its type of knowledge it is external and descriptive. The actual process of self-determination must in some measure

escape it. But, if my theory is correct, we are, in consciousness, in some measure participants in the actual process of the brain-mind. Valid as scientific knowledge is, it can never be identical with participation. There is this degree of truth in voluntaristic metaphysics. What I have called the "content of being" eludes physical science, for its knowledge is not an intuition.

In consciousness there is a partial coalescence of the psychical. How complete this coalescence is, it is impossible to say. The controlling centre can inspect, and guide itself by, the cues which the psychical presents. Thus my purpose to walk down a road full of obstructions is rendered possible by the sense-data which my organs of sense mediate.

No psychical element is efficacious by itself. In the first place, it is but the qualitative focus of the brain-mind state; in the second place, it is part of a larger system which selects. In the last analysis, it is the organism as a whole which acts. A psychical content is used by the apperceptive and controlling cerebral system as a warning and as a guiding sign. And this is possible because these *quales* can be brought within the purview of the active system. The synthesis which is consciousness is at once the sign, the expression, and the focal element of the cerebral system. In brief, the guidance which we are aware of in consciousness is at the same time the guidance of the cerebral system of which consciousness is the qualitative dimension. Here, and here alone, we participate in the process of real causality. And yet, because the cerebral background is hidden, this participation is but partial. We know that we desire certain things. In consciousness, the desire consists of images, feelings and motor sensations. But beneath this, and including it, is the bodily system with its organic drive. We must neither exalt nor belittle consciousness, but try to understand its nature and function in the economy of the organism which each of us is.

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V.—THE PROBLEM OF CLASSIFICATION IN RELIGION.

By W. ADAMS BROWN.

SOME of us can remember the dismay with which we first learned that the dictionary is not infallible. It was a devastating experience. To our youthful apprehension there was something peculiarly sacrosanct about a definition. It belonged in the same category with the Ten Commandments and the Constitution of the United States. From this attitude of awestruck reverence to the jaunty mood in which William James treats of definition in his *Principles of Psychology* is a journey almost too long to be taken with comfort by a man who has not yet at his disposal the three hundred years which Bernard Shaw promises us in his "Back to Methuselah." Professor James, you will remember, calls our attention to the subjective elements involved in all our reasoning. He reminds us that no conceivable definition can include all the attributes which belong to the object in question. We must choose which to take and which to leave, and the determining influence in each case is the interest and the need of the man who defines. Thus our definitions not only test the accuracy of our observation ; they register our standard of values.

In this matter of definition my reason is wholly of William James's persuasion, but about my sentiment something of the boyish reverence still lingers. I want my definitions not only to serve some temporary purpose, or to enable me to deal with some perplexing situation, but to make me feel that I have gained insight into the way things are made, and to furnish a point of departure for future progress. And in this I suspect that I do not stand alone. Most of us philosophers in our secret souls do really believe that the formulæ which we elaborate with such painstaking effort express insights which are important

and illuminating. They may not include the whole truth or cover the whole ground, but they are true as far as they go. They are not simply convenient pegs on which to hang a string of clever observations. They give us, so we verily believe, a clue to the structure of the universe. They shed light into nature's dark corners.

It is in this spirit that I approach my present subject. I am going to propose a new classification of religious types, and to give my reasons for adopting it. I do not regard this classification as disproving the correctness of other possible classifications. But I suggest it as one which has proved illuminating and suggestive to me. It has helped me to explain phenomena of which the conventional classifications take little or no account, and to gain a conception of religion as a whole which more nearly corresponds to the facts as I observe them.

This must be my excuse for bringing this subject to the attention of a group of philosophers. Each special field brings us at last to ultimate questions which are of interest to those outside that field. And nowhere do science and philosophy meet more inevitably or more intimately than in this matter of classification. It is so in the physical sciences. What shall we say of the phenomena which underlie our distinction between genera and species? How far do they represent ultimate categories? how far merely passing forms which have arisen in the course of a process of evolution? To raise this question is to plunge at once into the world-old debates of philosophy. Permanence and change, the one and the many: they are all involved in the simplest classification in chemistry or biology.

When we pass from Nature to Man our difficulties increase, for here conscious choice begins to play its part in determining the groupings to be studied. On what principle shall we classify the different social complexes which meet us in history? How far do they represent permanent contrasted types? how far

are they the result of transient influences? What is the relation of the organized bodies we call churches or states to the internal differences which divide their members into parties or schools, and how are these in turn related to the individual differences of temperament with which psychology is concerned? These are questions of the philosophy of history, to which as yet little attention has been given in comparison with the study which has been devoted to the problems of classification in biology. Yet their importance is surely not less, and the consequences which follow from an incorrect classification are far more serious.

Of the different angles from which we may approach these problems of the philosophy of history, that of religion is one of the most promising. For religion is concerned in a very special way with man's attitude to the whole. From the beginning philosophy has concerned itself with man's relation to the Deity and the problems of the personal religious experience. But the social aspects of religion still lack an adequate treatment. The problem of the classification of religious types has, to be sure, engaged the attention of theologians and historians, but the formulæ which they have given us still leave much to be desired.

Before entering upon a criticism of the ways in which the existing religious differences have been classified it may be helpful to remind ourselves what some of the more important of these differences are. First of all there is the difference between the imposing social complexes we call the historic religions—the rival faiths which divide between them the allegiance of mankind and are represented on the missionary maps in bold contrasts of white, yellow, green and black. In contrast to one another, each of these faiths represents a certain principle of unity. The Christian, the Mohammedan and the Buddhist are conscious of a common ancestry, common tradi-

tions and a common literature, which bind them to their co-religionists and separate them from the members of rival groups. Each group has its Bible which its members read. Each group has its founder whom all alike revere. The relation of these historic unities to the internal differences which separate members of the same group presents difficulties, but the unities cannot be denied.

Next there are the differences which appear within the different religions. These differences are of two kinds—differences of organization and differences of conviction. That singular phenomenon in Protestantism which we call the denomination is a religious organization which has all the marks of a complete church, and yet which recognizes other similar churches within the same religion. Catholicism has its religious orders and societies that cut across the existing diocesan organization, and make room within the one inclusive Catholic Church for the initiative and rivalry which in Protestantism are expressed through independent churches. In my own country where denominationalism has been carried furthest, the United States census registers nearly two hundred self-governing and practically independent bodies. While many of these are so small as to be negligible, there are more than fifty that number over fifty thousand, and of families that approach or surpass the million there are seven.

To differences of organization must be added differences of conviction, and the two by no means always correspond. As the peoples of the different nations and states are divided into parties, so all these different churches and denominations are divided into schools. There are high churchmen and low churchmen, broad churchmen and evangelicals, modernists and traditionalists, sacramentarians, and those who have no use for institutional religion. These differences constantly combine and re-combine in ever new variations. As soon as the existing

forms prove inadequate some new school arises or party is formed.

Finally we have the differences which are due to variation in the individual religious experience. In religion, as in other phases of men's life, temperament is an influential factor. The familiar contrasts between the rationalist and the mystic, the individualist and the churchman, the soul which bows unquestioningly before external authority and the free and inquiring spirit—these differences make themselves perennially felt in religious history, and affect the larger social groupings in interesting and often perplexing ways.

If we exclude the extreme individualists who regard religion as a mere matter of individual taste or idiosyncrasy and would expect, therefore, to find as many different kinds of religion as there are persons who are religious, the study of differing religious types has been approached from two main angles—that of the dogmatist and that of the evolutionist. The dogmatist believes that there is one true and final form of religion, and that all existing examples of religion are to be judged either by their agreement with it or their departure from it. He is content, therefore, with a very simple formula for his classification of religious types. True and false are categories under one or other of which all existing forms without exception can be brought. Some religions are human inventions, others owe their origin to divine revelation. Only the latter can promise the enlightenment and help man needs. Thus Christianity as the revealed religion differs from all merely natural or ethnic faiths, because while Christianity is based upon a definite and authoritative revelation of God they are so many attempts of human reason to solve for itself a problem which without supernatural help is in its very nature insoluble. A similar contrast meets us in the other historic religions.

The same method may be used to explain the differences

within the different religions. The logic which denies truth to other religions than my own must, if consistent, deny truth to all forms of my own religion which depart from the one I accept. Heresy is the name we give to a false interpretation of a true religion, and we all know how great a role it has played in religious history. I have in my library a book by a Mohammedan scholar on the seventy-three sects of Islam. With great learning he describes the differences in the teaching and practices of these rival sects. The importance of his results becomes apparent when he reminds the reader that of all seventy-three faiths only one offers any hope of reaching Paradise.

The evolutionist, on the other hand, conceives of religion as in process of development—a process in which its true nature appears ever more clearly in the light of its unfolding history. According to this view the differences between the existing forms of religion are due to the different place which they hold in the unfolding of religion as a whole. They differ not as true or false, but as more or less true.

The idea of development, to be sure, carries with it no necessary connotation of progress. As used by biologists to explain the origin of species it is simply the story of the emergence of more complex forms of organization. But this purely scientific conception has been paralleled by a movement in philosophy in which the conception of development has been applied to man's moral and religious history. The different religions have been explained as parts of one all-embracing religion, steps by which the human spirit is ascending in its quest of God. In the Hegelian philosophy this method of interpreting the history of religion reached its climax. It was used not only to account for the differences between the historic religions, but the differences within each. Baur and his school applied it to the interpretation of Christian doctrine, and explained Catholicism and Protestantism as successive steps in the unfolding of the Christian

religion. Students of comparative religion grouped the existing religions in an ascending series according to some principle of immanent development. The methods followed in detail differed widely. Sometimes departure was taken from the idea of God, and we have the series henotheism, polytheism, monotheism, pantheism. Sometimes the end sought in religion was the determining principle, and we have the distinction between natural and ethical religion, between positive and negative religion, between the religion of this world and other-worldly religion, between the religions of self-fulfilment and of redemption. Still again, attention was directed to the field within which it was attempted to realize the religious aim, and we have religions classified as tribal, national or universal according to the range of their social consciousness. But in each case the particular religion was conceived as part of a larger religious development—a stage through which the possibilities of religion as a whole are unfolded.

It is not difficult to point out the limitations of this method. They can all be summed up in a single sentence. The classifications given do not correspond to the facts. The varieties in the existing religions are too great to be tabulated as parts of any single consistent logical scheme. Each religion, and to a very considerable extent, each lesser unit within each religion is a complex in which many of the contrasted types occur. Granting that the distinctions made are correct as far as they go, and I for one believe that every one of them points to a real difference of which we ought to take account, the attempt to identify them with the existing historic units is hopeless from the start. If we are to succeed at all we must approach our problem from a different angle. Abandoning for the moment the attempt to find a logical classification of the existing historic forms of religion, we must look for our principle of arrangement in the field of psychology.

Many attempts have been made to find such a principle both by theologians and by psychologists. To some of these I shall refer presently. Some take their departure from an analysis of the individual religious experience; others attempt a psychological explanation of the more important forms of social religion. But they all agree in this that we can only understand the existing differences in religious types if we regard them as proceeding from inherent differences in human nature, and, therefore, likely to recur within all religions as long as man remains what he is. I believe that this view is substantially correct, and the classification which I shall suggest is based on this assumption. It is psychological in that it takes its departure from the mental attitude of religious people. But it differs from many of the more familiar psychological classifications in that it finds its determining principle in man's attitude toward society.

There are three possible attitudes which one may take toward the existing social order. One may accept it as it is without question, and yield its institutions willing and loyal allegiance. One may protest against it as corrupt or negligible, and find in one's own inner life a sufficient refuge and compensation. One may believe that society itself is in process of remaking into new and better forms, and that each man and woman may have his part in that remaking. These three attitudes have their counterparts in religion. There are religious people who are satisfied with the Church as it is. There are others who regard it as corrupt or negligible, and believe that religion is capable of complete description in terms of the relation between the individual soul and God. There are still others who believe that God is forming out of the present world a better society, the Kingdom of God, and that it is the privilege of every truly religious man to co-operate with his fellows in hastening the coming of that kingdom. These different attitudes determine men's relation to God, and so the

character of their personal religious life. One man believes that he communes with God most perfectly through allegiance to some existing organization whose triumph in the world he identifies with the victory of God's will. Another believes that he communes with God most deeply when he withdraws his attention from all that is finite and transitory, and concentrates it upon the attempt to realize the immediate presence of God. A third man is persuaded that he communes with God most truly as he joins his fellows in a common search for truth, beauty and goodness. He is convinced that God's will is being progressively revealed to those who in humility and faith join in remaking the institutions of society (including the church itself) according to a constantly clearer apprehension of the mind of God.

These three types of religious experience give rise to institutions appropriate to their genius. They are all social forms of religion, wholes, not parts ; religions, not simply types of religious experience. They recur in every age and cut across the great complexes we call the historic religions. They have as yet no recognized names. For the purpose of this discussion we shall call them imperialism, individualism and democracy. By imperialism we shall understand a type of religion in which man's relation to the Deity is thought of as most perfectly realized in the measure that he surrenders himself most completely to the service of an organization which requires and receives unquestioning obedience on the ground that it is the accredited representative of God on earth. By individualism we shall understand a type of religion in which man's relation to the Deity is thought of as most perfectly realized in the measure that he separates himself from his fellows and concentrates his attention upon God. By democracy we shall understand a type of religion in which man's relation to the Deity is thought of as most perfectly realized in the measure, that he enters sympathetically into the life and thought of others, and unites with them

in the effort to realize the ideal social order which it is the purpose of God to establish through the free co-operation of men.

This classification differs from the other social classifications with which I am familiar in two respects. In the first place it groups under the common head of imperialism forms of authoritative religion which other classifications separate. In the second place it distinguishes individualism and democracy as independent types, whereas the best known classifications group them together as religions of freedom in contrast to the religion of authority. Thus Sabatier distinguishes the religion of the Church and the religion of the Book as religions of authority from the religion of the Spirit. Troeltsch distinguishes the churchly type of religion from the religion of the sect, and both as social forms of religion from mystical religion, which is purely individualistic. Harnack, employing more conventional categories, contrasts Protestantism with the two great forms of Catholicism, that of the Greek Church, in which the emphasis falls upon the past, and Roman Catholicism which possesses an organization which enables it to deal effectively with the new problems of the present and of the future. All these distinctions are useful and informing. But I venture to think that the true significance of the contrasts they point out will appear more clearly in the light of the classification I have suggested.

In experience, to be sure, the three types we have distinguished as imperialistic, individualistic and democratic, seldom meet us in absolute contrast. No individualist ever succeeds in cutting himself off completely from his fellows or even in staying all the time as much cut off as in his most solitary moments. Even the most convinced imperialist is sometimes visited with questionings of the wisdom and justice of his Church's decrees. As for democracy, that remains still an aspiration for most of us, the description of the kind of thing we would like to be and to

do if we could realize our highest ideal. Nevertheless, the types are real types, and they are sufficiently distinct to serve a useful purpose in definition.

When I use the terms "imperialism" and "democracy" in this connection it is, of course, in a religious, not in a political, sense. By imperialism I designate a type of religion which recurs again and again in religious history. Ultramontane Roman Catholicism is an outstanding illustration, but it is only one of many. In surrendering his will to that of the hierarchy as expressed through its official organs, the devout Romanist is conscious of immediate communion with the Deity. Questions which might have perplexed him had he stood alone no longer baffle. Scruples which might otherwise have arisen are brushed aside. There is but one way to serve God acceptably, and that is to give oneself without reserve to the service of the institution through which His will is expressed. All else follows as a matter of course, the casuistic ethics, the limitation of individual freedom, the subordination of the moral to the ceremonial in religion, the conception of the world as a hostile territory inhabited by men who must surrender or be conquered.

What interests us here is that this phenomenon is not exceptional. It is only a conspicuous illustration of a permanent and recurring type. Militant Protestantism furnishes us with not a few notable examples of it. We see it in the Roman deification of the State, in Islam, in Shinto, the imperialistic religion of modern Japan. We see it in the German religion of the State, so dramatically exemplified in the recent war. We see it in the Bolshevist deification of the proletariat, and the complete identification of this new deity with the existing organization through which its will is made known to the world even before it has discovered it for itself.

It would be instructive, if there were time, to follow the parallelism in detail. I venture to suggest that there are few

aspects of ultramontane Roman Catholicism that cannot be paralleled in the experience of modern imperialistic Germany. In each case we have the conviction of a world mission divinely given ; in each the consciousness that those who oppose this mission are sinners against God ; in each we find a highly trained body of professionals whose business it is to make this sovereignty prevail at any cost and a system of education inculcating submission to authority as the highest duty of the individual ; in each we find the acceptance of the principle of a dual ethics, and in each provision is made for the more sensitive religious spirits through a mystical piety so safeguarded as not to come into conflict with the demands either of Church or of state. He who understands ultramontane Roman Catholicism will understand modern imperialistic Germany, and *vice versa*. No one can understand either who does not perceive that he has to do with a religion.

When we pass to the second great type of religion we find it less easy to paint a consistent picture, for it is characteristic of individualism that, in theory at least, each man is a law to himself. Yet here, too, there are definite characteristics which persist from age to age, and which separate the individualists of all countries and of all religions from their fellow worshippers of other types. Common to all is the conviction that one communes with God most intimately when one forgets one's fellows and concentrates one's attention upon the Deity. Sometimes the negative attitude is carried to an extreme as in the complete world renunciation of Buddhism, or in the extremer forms of Christian mysticism. Sometimes a positive element enters in as in the nature mysticism of a poet like Wordsworth, or a worshipper of beauty like Shelley. Again, the longing for deliverance from sin takes a central place in the individualist's religion as in the evangelical's prayer for personal forgiveness. But in each case the social aspects of religion are overlooked or

subordinated. If they are recognized at all it is as a means to a higher end or a consequence which follows from it. They are no part of religion as such. To a worshipper of this type religion is in essence, and must ever remain a matter of direct communion between the individual worshipper and his God.

Much of the recent work in the classification of religious types has been carried on within the field of individualistic religion. In the case of William James, the most notable of recent contributors to the psychology of religion, this restriction was intentional. "What I propose to study," he tells us, "is the feelings, acts and experiences of individual men in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider the divine." It is the religion of the solitary and the saint which James invites us to study, the lonely soul in communion with its God. All the differences which owe their origin to history are ignored. Mystical religion is studied, but ethical religion is passed by. The religion which expresses its faith in God through love to man is conspicuous by its absence.

Within this restricted field Professor James has made notable contributions to our understanding of religion. The distinctions which he makes between the religion of healthy-mindedness and the religion of the sick soul, between the religion of the ordinary Christian and that of the saint are highly instructive. His discussion of the mystical experience can be neglected by no student of the subject. But they are all studies within the field of individualistic religion. They do not invalidate our contention that, however much the types he studies may differ from one another, they form a single class as compared with the imperialists and the democrats.

Less obvious but equally capable of defence is my contention that individualism is a form of social religion. By this I do not mean simply that no man can succeed completely in quarantining himself against social contacts in his religion, although that is

true. I mean that the individualist as individualist must create social institutions of his own to express and to protect his own particular type of religious life. It is not a question of like or dislike, but of sheer necessity. If it be only for self-preservation there must be some kind of association. The alternative is not whether the individualist will have social institutions or not, but what kind of institutions they will be.

Two possibilities are open to him. He may be content with the minimum of organization, just enough to keep life going and to insure a platform on which his own feet can safely stand. Or he may be convinced that his own type of experience is one which God means he should share with others, and for that reason feel it his duty to create an organization for the purpose of propagating it. In the first case his church will be a community, monastic or otherwise, in the second case it will be what Troeltsch calls a sect.

Much individualistic religion is community religion. The classical example is the monastery. Here the devotees of the solitary life combine to protect their own privacy. Each has his cell to which he can retire, and while they meet for common worship and for the practice of the work necessary to sustain life, these are incidents in the main purpose which brings them together, which is solitude. In extreme cases, as with the Trappists, even speech is forbidden.

But individualistic religion may take another course. The knowledge that comes in solitude may seem too important to be monopolized. The ideal of service which is latent in every man may begin to assert itself. When this moment comes a new social interest begins to operate. A purely self-centred and isolated life seems no longer adequate. There must be an active and aggressive organization. The community must add to contemplation propaganda.

It is when service takes the form of propaganda that the

individualist faces for the first time in its full force the social problem which is central for the imperialist and the democrat. Either he may be consistent in his individualism or he may compromise. He may leave his neighbour free to make his own decision even though that decision be one which he cannot himself approve, or he may trust him so far only as his conclusions agree with his own. To take the latter course is to follow a path which will lead back sooner or later to imperialism. To follow the former is to take the first step on the road to democratic religion.

We may borrow from Troeltsch the term "sect" to describe the kind of religious institution which results when the first path is taken. The religion of the sect is individualistic religion which has carried over into its new environment the imperialistic spirit. The sectarian is an individualist in his personal religious experience. He hears God speaking to him directly, and yields implicit obedience to what he hears. But he believes that what God says to him he must say to every other man also. He cannot tolerate the thought of any variation in religion. Like the imperialist, uniformity is his goal. Yet his theory will not permit him to create the institutions through which the imperialist achieves complete conformity. So he is obliged to seek the same goal by an indirect path. In theory each worshipper is free to approach God for himself and to interpret what he finds in his own way; but in practice any departure from the traditional interpretation is regarded as dangerous, all the more dangerous because it is presented in the guise of personal experience. Indeed it may be said that heresy is even more disturbing to the sectarian than to the imperialist, for it poisons the wells at which he drinks. So we see traditional Protestantism in the name of freedom of conscience setting up again the methods of churchly control to escape from which the first Protestants broke with Rome. It is a halfway house between imperialism and democracy without the consistency of either.

It is in the attitude taken to uniformity that the difference between the individualist and the democrat appears in its full significance. The thorough going individualist is willing enough to admit that God may speak to another man with the same intimacy and directness with which he speaks to him, provided the thing that God says in each case is the *same*. Democratic religion begins when a man first realizes that God may be speaking to him through the *different* thing which he is saying to his neighbour. The democrat makes place for other persons in his theory of religion. He agrees with the imperialist that God has a world purpose and that the individual fulfils his highest destiny in the measure that he surrenders himself completely to that purpose, but he is convinced that that purpose can be realized only through its intelligent appropriation by all who must co-operate in its fulfilment. He is unwilling, therefore, to accept the dictum of any institution as final, but reserves his own right of independent judgment. With the individualist, on the other hand, he shares the conviction that each human personality has a value for God, and that self-development is a religious virtue; but he has learned that there is no such thing as an isolated individual, and is convinced that we become our true selves only as we relate ourselves to other selves. The democrat believes that every question ought to be approached in the light of its bearing upon the welfare and progress of persons, and he further believes that each individual has it in him to become a personality. He is convinced that the highest values for each can be realized only through the co-operation of all. A democratic society is one in which the laws rest upon the free consent of the governed, and social institutions are designed to produce persons who are fit to share in the responsibilities of government. Democracy becomes a religion when those who accept this conception of human society do so because they believe that it expresses God's will for man, and are conscious that in the measure

that they serve their fellowmen they are communing with God.

As compared with imperialism and individualism democracy, we may be told, is but a religion of yesterday, and if our standard be quantitative there is much to be said for this view. Of the three types it is incomparably the most difficult, both in its demands upon faith and conduct. Yet I believe that a good case can be made for its inclusion as the third in our triad. In time it antedates Christianity, finding its anticipations in Joel and the author of the nineteenth chapter of Isaiah. As an ideal it was cherished by the Greeks though they did not venture to extend the range of its application beyond the few. Jesus did most to give it currency, and from time to time during the succeeding centuries it has found its interpreters and defenders. In our own day it has become so much the fashionable religion that the name has been borrowed by the imperialists to lend an artificial sanctity to a type of religion which they know would be repudiated if labelled with its proper name.

Within the genus democracy we may distinguish its species and sub-species, according as they lay chief emphasis upon intelligence or conduct. In our modern concern with doing we are apt to identify the religion of democracy with what is often called the social Gospel, and to find its modern prophets in advocates of social reconstruction, like Walter Rauschenbusch and R. H. Tawney. But there is a sense in which modern science may claim its right to be regarded as one of the most signal illustrations of the religion of democracy. Where else will you find a clearer exhibition of the democrat's characteristic faith, that the way to find truth is for free men to co-operate in its quest, with its corollary in the assurance that nature holds no secret which she will not impart to her worshippers if the quest is persistent enough and the seekers are purged of all pride and self-will. The new education, like the new economics and

the new philanthropy, is democratic in ideal. It draws its inspiration from the faith that each individual has a value for society, and that the way to win the best from any man is to trust him. Within the churches the democratic spirit appears in the openmindedness and sympathy which characterize recent theological thinking, in the more appreciative attitude toward men of other countries and of other religions, in the growing spirit of co-operation between the churches, and in the insight that the church of the future must make room within itself for the different types of religious experience and conviction which now find expression in independent churches. But we are not concerned here to follow out our classification in detail but only to justify the threefold division suggested and to point out some uses which it may serve.

As to the first, let me repeat that I do not propose this classification as the only possible one, but only as true and significant as far as it goes. It needs to be supplemented by other groupings which in their place are equally valid. Each of the other classifications which we have passed in review springs from a real insight and contributes to our understanding of the history of religion. Whether we take our departure from the idea of God or from the psychological processes involved, or from the end sought in religion, or from the degree of social organization, we are dealing with real differences of which the student of religion must take account. These differences cut across the classification which I have suggested, as they cut across the historic religions in the accepted sense of that term. They furnish us data for the species and sub-species of which I have spoken. They explain the curious examples of cross-breeding of which history is full, like the religion of the sect, which is the result of the marriage of individualism and imperialism, or the religion of the Friends, where the parents are individualism and democracy. But I submit that they are not as convenient

or as informing as the threefold classification which I have suggested. For each of them takes its departure from some phase of the many-sided life of religion, whereas the classification here advocated finds in a man's attitude to society a principle by which we may interpret his religion as a whole. Imperialist and democrat agree that no man can realize his true relation to God apart from his fellows. The individualist, on the other hand, finds in religion a means of escape from the tyranny of organized society. As against the imperialist the individualist can make a strong case. Whether it can be made convincing will depend upon the practicability of the ideal of democracy.

But my interest here is not to argue the case of one of these types of religion against the others, but rather to point out certain useful purposes which this method of approach to the study of religion may serve. For one thing it will help us to understand certain phenomena in religious history which are otherwise perplexing. For another, it will make possible a more intelligent attitude toward the conflict of the historic religions.

To many Protestants the existence of Roman Catholicism presents an insoluble riddle. They cannot understand how a religion could have arisen which departs so widely from the simplicity of Jesus. Our theory suggests an answer. It arose because imperialism represents one of the permanent religious types, a type which will emerge wherever the historic conditions make that emergence possible. Why Roman Catholicism appeared just when it did and took the particular form that it did the historian must explain to us. But that it was possible at all was due to the fact that it answered certain permanent religious needs in a way that multitudes of men of the most widely different races and centuries have found satisfying.

What is true of Roman Catholicism, particularly in its more extreme ultramontane form, is equally true of the more modern

forms of imperialistic religion with which we have compared it. The Germany of the Kaiser and of the Imperial General Staff is not some strange portent, revealing to us the fact that the German belongs to a different race of beings from other men and must therefore be permanently ostracized from the society of his fellows, but is only a new illustration of the fact that like causes produce like results, and that if you treat men who call themselves Protestants in the Catholic way long enough you will get the kind of result the Catholic gets. Even Bolshevism, however uncomfortable it may for the time appear, need not make us despair of humanity, but should only warn us how much more difficult a thing it is to be a democrat than we had hitherto supposed and how many and how powerful are the forces to which the imperialist can appeal.

But even in his palmiest days the imperialist could never have things entirely his own way. If the imperialistic type of religion appears outside the Catholic fold the individualist and the democrat have their representatives within. In its doctrine of the double standard Rome has come to terms with individualism and made a place where the mystic can realize his ideal of sainthood, under the shelter of the Church. In modernism a more difficult factor appears. For the modernist is a socially-minded man. If he is not a full-fledged democrat at least he would like to be one, and he hopes for the time when, under the ægis and with the approval of the highest ecclesiastical authorities, the free quest of truth which is the ideal of the democrat may be carried on without fear by loyal Catholics.

On the existing situation in Protestantism, too, our formula has light to shed. How shall we account for the extraordinary contrast between the ideal of Protestantism and its performance? Here, again, there are many specific reasons which may be given, reasons growing out of the history of this or that sect or denomination, which help to explain why the existing situation is what it

is. But underlying all these, and necessary to their understanding, is the more fundamental fact that imperialistic religion is a permanent human type, and that when the conditions admit of its emergence it will appear. Our modern reactionary leaders are poor substitutes for the Pope of Rome, but the ideal of religion which they hold up is similar to that of Rome, and the motives to which they appeal are the same. Our religious teachers will be well advised to remember this when they map out their programme of religious education.

Finally, this method of approach will help us to take a more intelligent view of the conflict of the historic religions.

Two contrasted attitudes are ordinarily taken to this conflict. Either it is assumed that one religion is true and all the others false, or it is concluded that there is nothing to choose between them. If our analysis is correct, neither of these attitudes is justified. It is not enough to say, "I am a Christian," or "a Mohammedan," or "a Buddhist," for there are different kinds of Christianity, of Mohammedanism and of Buddhism. Christian individualists will find the great saints of Mohammedanism and Buddhism more congenial companions than many an imperialist of their own family. But the imperialist who claims the name of Christ will find it harder to make his case than the Mohammedan who appeals to Mohammed, for we know what Jesus taught, and we know what Mohammed taught, and we know that Jesus would lead us to the Father by the path of free assent, while Mohammed demanded submission or the sword. So Gautama presents us with much that is winsome, and the mystics of every age will find themselves at home in his company, but for the democrat Buddhism must be barren soil, for the classics of that religion point in another direction. Christianity is not yet the religion of democracy, but this we can say with confidence, that of all existing religions it has the best fighting chance to become so.

But enough of prediction. Prophecy is dangerous business, and the most that the most stout-hearted of classifiers has a right to claim for his formula is that it fits the facts up to date, and has as good a chance to survive as any of its rivals.

*Meeting of the Aristotelian Society at 21, Gower Street, London,
W.C.1, on January 29th, 1923, at 8 p.m.*

VI.—A NEW THEORY OF MATTER.

By LESLIE J. WALKER.

By "matter" I understand existent things—(1) *qua* the subject of change, and (2) *qua* extended, and so measurable. And by a "theory of matter" I mean an attempt to deduce from relatively simple first principles the laws of co-existence and sequence which have been found experimentally to hold good between observed changes in the sphere both of quality and quantity. This paper, therefore, will fall naturally into two parts. In the first part I shall discuss briefly the nature of change in general, and in this shall follow closely the main lines of the Aristotelian theory. In the second part I shall adopt a pre-Aristotelian view of the nature of the physical continuum, a view which, so far as I know, has never been maintained, still less applied, since the day in which Aristotle identified continuity with the infinitely divisible. It is for this reason that I have been so bold as to entitle my paper a "new" theory.

I.

Aristotle solved the problem of becoming by the introduction of a *tertium quid*, which is neither fully being nor yet merely non-being, namely, *δύναμις* or potential being. Potential being is real: it exists. Also it can be known, though not directly by the senses, since, as such, it is not sensible. It can be known only in so far as it becomes sensible and is the subject of sensible changes (*πάθη*), as a motor bicycle is known by what it does or by what is done to it, in short, by its behaviour. For a motor bicycle is not merely an assemblage of matter-particles arranged in a certain characteristic way. Nor yet is it merely a something which has travelled, under certain circumstances, a certain distance in a certain time. Both these

characteristics may belong to it, but they do not completely define it. A motor bicycle is something more than either, namely, a something which, in virtue of its structure, is *capable* of such and such behaviour. This is true of all material being.

Everything material, therefore, exists both potentially and actually ; it is dynamic as well as static ; for it changes. The particular form in which it exists at any given moment is in its details non-essential. It is, in Aristotelian language, an "accident," *i.e.*, a characteristic which *de facto* belongs to a thing and forms part of its very being, but may cease so to do ; the actualization, transitory or more or less permanent, of one of its potentialities. While, then, on the one hand, it is only through accidental changes, *i.e.*, through the successive forms in which the potentialities of a thing are actualized, that it becomes known, the essence of a thing lies not in the changes which actually take place in it, but in the fundamental structure or ratio (*λόγος*) which holds between the potentialities themselves. This ratio is what the mediæval philosophers called the *forma substantialis* of a thing, that which makes it what it is in that it determines the characteristic ways in which it may be modified together with the type of its reaction to whatever may be acting upon it. The *forma substantialis* is opposed both to *materia prima* and to *accidentia* ; for *materia prima* is the existent thing *qua* susceptible of *any* substantial form, while substance is the existent thing *qua* existent in this particular substantial form, and accident the existent thing *qua* further actualized, determined, or modified in some particular way, the character of this further actualization being determined specifically by the substantial form, but in detail by the surroundings with which the thing is interactive.

Now in the Aristotelian theory there is only one factor in the material universe that is permanent, namely, the sum-total of its *materia*, its "quantity." For this reason matter has some-

times been described, though in the technical sense wrongly, as "eternal." All else may change. That type of change in which one substantial form gives place to another, is called substantial change, *generatio et corruptio*, γένεσις καὶ φθορά; the other three types being qualitative change, quantitative change and local motion. In all four types of change there is a *transitus de potentia ad actum*, and hence, with respect to the antecedent actuality, a *transitus de actu in potentiam*. This process is governed by the general law *nihil movetur nisi ab alio movetur*, where non-living things are concerned; and again in the realm of generable and corruptible substances by the general law: *generatio unius, corruptio alterius*.

Since Aristotle regarded the heavens as unchangeable except with respect to the motion of their parts, he restricted the latter principle to sublunary bodies. In this he was mistaken. His two laws apply to all material bodies. Everything material receives its being from something else, whether the being in question be of the order of substance, quality, quantity or local motion. And what one thing gains in being, another thing loses. Thus in the case of substantial change, the same matter is informed successively by different substantial forms, *i.e.*, one fundamental structure gives place to another; but the quantity of matter involved is, unless also there be accidental change, the same in both cases. Again, in quantitative change, that which is augmented is augmented by a real something which it receives from another thing or other things, those other things decreasing in proportion as *it* is increased. Similarly, in the case of qualitative change, the degree in which the potentiality of one thing is actualized corresponds to the degree in which the potentiality of other things is de-actualized, the pair of potentialities concerned operating always as contraries, and the process being always in contrary directions with respect to act and potency. Thus, if one thing, B, is to become hot, it must be made hot by

some other thing, A, which, in making B hot, itself becomes proportionately colder.

The resemblance between this fundamental principle of the Aristotelian theory of corruptibles and the basic principle of the modern theory of energy is more than superficial. Energy (*ἐνέργεια*) is an Aristotelian term signifying the extent to which a potentiality is actualized, while the process of actualization is termed *κίνησις*, motus or change. If dE , then, signify the difference between the extent to which a given body, A, is actualized at two given moments, since this actualization will not be due to the body itself but to the action of something else upon it, it will signify also so much work done; and, in the system by which the work is done, there will be a corresponding decrease in actualization of the same specific type, i.e., a corresponding decrease of energy. Hence, if with the Scholastics, we distinguish between *potentia activa* and *potentia passiva*, defining the former as the capacity for producing, and the latter as the capacity for undergoing, change within a specific pair of contraries, it follows that in any closed system the energy lost by the parts which are active will be equal in quantity to the energy gained by the parts which are passive within any specified period and with respect to each specific type of being.

To convert this doctrine of energy into the modern doctrine we must show (1) that all forms of energy are quantitatively equivalent, and (2) must devise a system of units by means of which energy may be measured.

Aristotle is quite alive to the importance of this. He recognizes that things not only have quantity but can be compared with respect to their quantity; and, again, that they not only change, but that the series of changes taking place in one system can be compared with the series of changes taking place in another. The measure of extensive quantity is distance measured radially in three directions and then compounded.

The measure of serial change is time. But the two types of measurement are not independent. In distance measurements we select a "first" arrangement of things and use it as a changeless standard, whereas in point of fact the arrangement of things is ever changing. And in order to measure change we choose a recurrent series of changes, such as the apparent motion of the heavens round the earth, as our time-series, and, correlating two members of this series with two members of the series to be measured, treat the intervals as quantitatively equivalent. Our time-interval depends upon the revolution of the earth about its own axis. It is arbitrary, therefore; and, if thus we measure time, each planet will have its own time series, as Porphyry points out in an argument which St. Augustine discusses at considerable length. Also time-measurement involves the measurement of distance, and assumes that every part of the cycle traversed always bears the same relation to the whole.

The fact that all measurements are made by means of number, distance, and time, which is ultimately reducible to distance, suggests that all types of change are of the same fundamental type, namely, local motion or change of position. This Aristotle recognizes, and explicitly states in his *Physics*. But, as a philosopher, he is not content thus to *assume* the quantitative equivalence of different forms of energy: he would deduce it from first principles. Hence in the *De Generatione et Corruptione* he attempts to reduce all qualitative changes to variations in the intensity and in the grouping of two specific types of potentiality, the contraries hot-cold and dry-moist. The attempt was premature. Even to-day it is only on empirical grounds that we believe in the quantitative equivalence of different forms of energy. We know that quality varies with quantity, but a satisfactory explanation of this *de facto* concomitance is still a desideratum of the philosophy of science.

The reason why Aristotle failed is mainly his ignorance of the characteristic chemical, electrical and physical properties of bodies which have since been empirically established. But there are other reasons. First of all, Aristotle's fundamental contraries, the hot-cold and dry-moist, are sensible rather than intelligible properties : Aristotle discards Plato's suggestion that the function of all activity upon what we call matter is to realize therein some geometrical form. Secondly, he never attempts to correlate that something which in qualitative change is taken from one actuality and added to another, with that something which in quantitative change is taken from the extension of one thing and added to the extension of another. Thirdly, he has no notion of a centre of force or of potential at a point. Living beings alone are organic. Other material things, and the parts of animals and plants, are not only continuous, but homogeneous and isotropic : their substantial forms, being present in the whole and in each part of the whole in precisely the same way, render each part identical in kind with every other part. The logos or ratio which constitutes these substantial forms is not a logos or ratio between potentialities situate in different parts as their centres, but between potentialities which exist in all parts and are evenly distributed amongst them. In other words, Aristotle does not distinguish between the potentialities of the whole and the potentialities of the parts which constitute the whole, potentialities which arise doubtless from that which gives unity to the whole, namely, its form, but are none the less differentiated in different parts precisely because these parts are different parts and differently situated with respect to one another. As the Scholastics point out, Aristotle conceives the parts of a thing as parts only *in potentia* : they become actually parts only when they are parted one from another by physical division. In the continuum they are not divided, but merely divisible and divisible *ad infinitum*.

In spite of the fact that this notion of a continuum has led to the extremely useful mathematical notion of a continuum in current use to-day, I cannot but think that in thus conceiving a physical continuum Aristotle was led astray by appearances. A white wall, a blue sky, a glass of clear water appear to the senses to be both continuous and homogeneous. Yet in point of fact they have structure even with respect to the most minute of their parts. Moreover, the Aristotelian notion would hardly seem to be consistent. For the parts of a thing do not become actual by being separated; on the contrary, when separated they cease to be parts. Is, then, every material thing in reality divisible *ad infinitum*? Or are there ultimate parts, distinct, but not separated, from other parts, and physically indivisible? The Quantum theory and certain modern theories of the Ether alike point in the latter direction. There was also a pre-Aristotelian theory of the continuum based on the assumption that a physical continuum is not divisible *ad infinitum*—a theory which Aristotle himself discusses, and which he seems to regard as by no means incompatible with the basic principles of his own philosophy. I propose, therefore, in what follows to return to this assumption with respect to the physical continuum and to seek to develop it on Aristotelian lines.

II.

If there be throughout the physical universe ultimate parts we can consider the universe as made up of those parts. For the moment I shall assume that these ultimate parts are nothing more than existent units, inter-related one with the other, the primary type of relation being an *immediate* relation, nextness, contact, what the Greek mathematicians called *ἀφής*. Other relations will be mediate and derivative. Thus, if A be in immediate relation with B, B with C, etc., etc., A will be in mediate relation with C, and ultimately in mediate relation with every

particle in the universe. With Aristotle I expressly refuse to assume "empty space" (*κενόν*) between the parts of the universe; it is entirely unnecessary. If the parts are to move all we need assume is that they can change their relationships one to another. I also decline to predicate shape of these ultimate parts: shape will be a property of the group, and will depend upon the number and inter-relationship of the parts which constitute the group. Each ultimate part or "particle" will be what Greek mathematicians called a monad, i.e., a unit-magnitude having position, or, as I should prefer to say, a unit-particle in immediate or mediate relation with all other unit-particles.

Consider now one such unit-particle. It will be in immediate relation with others, the totality of which we may define as its First Shell. These will be in immediate relation with yet others, constituting a second shell, and so forth; so that ultimately each particle in the universe will be a member of some shell with respect to any other particle in the universe.

A further assumption is needed if we are to assign position to particles within the shells, as also if we are to have a means of calculating the number of particles in a group. In short, we must ascribe to groups of particles a property equivalent to that three-dimensionality which is a universal characteristic of the universe in which we live, *qua* a material universe. This can be done quite simply if we assume that at any static moment each particle is in immediate relation with six other particles, and that with respect to their inter-arrangement what is true of one is true of each. The arrangement, as thus defined, will be similar to that which holds between the intersections of the lines in a three-dimensional space-lattice, the intersections symbolizing particles while the lines connecting them symbolize their immediate relations one to another.

Such a system of particles will have a certain natural geometry.

For instance, if we define a linear series of particles as one in which each member is in immediate relation with two, and only two, other members, the central particle of the system will be the common "origin" of six such linear series constituting the axes of the system. Similarly, if we define a plane system of particles as one in which each particle is in immediate relation with four others, the arrangement being uniform with respect to any chosen particle, there will be three such plane-systems intersecting in the central particle of a three-dimensional system, and each will be divided into four quadrants by the axes, each of these quadrants being similar in all respects. We might also define parallel series of particles as series in which the consecutive members of any one series are in immediate relation with the consecutive members of at least one other of these series, each to each, and could thus determine the position of any chosen particle relative to the axes and to the central particle of the system. On the other hand, both linear series and plane-systems as thus defined will be closed systems, so that the geometry of the system will not be Euclidean.

Since vastly the greater part of the universe, even where there are solid bodies, will be supposed to consist of these particles, I shall call them Ether-particles (EP), and shall define them as particles which, at any static moment are always in immediate relation with six other particles. This being so there will be six particles in the First Shell surrounding any chosen particle, and in any shell, s , counting the shells outwards from the centre,

$$T_s = 4s^2 + 2 \dots\dots\dots(1)$$

particles, while in a system of s shells there will be

$$E_s = \Sigma(4s^2 + 2) = \frac{4s}{6} (2s^2 + 3s + 1) + 2s + 1 \dots\dots(2)$$

particles, which will also be the number in the universe, if s be

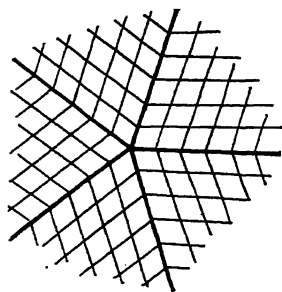
the number of its shells and the one-to-six arrangement obtain throughout.

It is of importance to note that such a system falls naturally into *eight* sections, which we may describe as inverted pyramids with a triangular base, their apices coinciding with the central particle, and their sides with three quadrants of the three axis-planes. If we write

$$A = \frac{1}{12} (2s^2 + 3s + 1) \dots\dots\dots (3)$$

this will be approximately the number of particles in each pyramid, the arrangement of the particles within each being similar in all respects.

As I have already pointed out, this arrangement of particles can be adequately represented by a three-dimensional space-lattice, and therefore, for the axis-planes, by a piece of squared paper, provided we remember that the particles are symbolized by the intersections, and that the lines symbolize not distances but immediate relations linking the particles together. Imagine now that, our axes being chosen, one of them splits into two, and that between the two axes thus formed there arises another set of particles similar in number and arrangement to those lying between any other pair of axes. Our plane will now be com-



posed of five quadrants instead of four (as in the figure), yet these quadrants will still be similar in all respects. If an analogous process takes place in the three-dimensional system, it will be found that the number of pyramids will increase in pairs as single particles are added to the First Shell of the particle

we have chosen as centre. The number of particles in a shell will now become

$$T_s = (n - 2) s^2 + 2 \dots\dots\dots (4)$$

where s is the number of the shell and n the number of particles in the First Shell surrounding some chosen centre. The number of particles in the system will then become

$$E_n = \frac{(n-2)s}{6} (2s^2 + 3s + 1) + 2s + 1 \dots\dots\dots (5)$$

Writing p for the number of particles added (or taken away) from the First Shell we shall have

$$\pm p = n - 6 \dots\dots\dots (6)$$

Subtracting (1) from (4) and (3) from (5) we then obtain for the number of particles added to any shell s

$$dT = \pm ps^2 \dots\dots\dots (7)$$

and for the number of particles added to the system

$$dE = \frac{ps}{6} (2s^2 + 3s + 1) = \pm 2psA = \pm dT \frac{(2A)}{s} \dots (8)$$

The centres round which more (or less) than six EP can be grouped I shall call mass-centres (MC). The EP which are grouped round them are still to retain their one-to-six relations, their relation to the mass-centre being counted in. This condition imposes no maximum limit to the number of EP which can exist in the First Shell of an MC, but does impose a minimum limit, namely, four. I shall suppose, therefore, tentatively, a maximum limit of eight. The First Shell surrounding each MC may thus contain either 4, 5, 6, 7 or 8 particles, *i.e.*, six being the normal number, may gain or lose either 1 or 2. This fixes the maximum and minimum values of p , and hence the maximum and minimum loss or gain for every other shell in the system. This loss or gain will be in the second shell ($s = 2$) ∓ 8 . In the third shell ($s = 3$) ∓ 18 , in the fourth shell ($s = 4$) ∓ 32 , and in general for the s th shell, $\mp ps^2$. Incidentally I may remark that these are the values which experiment suggests for the number of electrons in successive shells surrounding an atomic centre.

We must now pass to the question of change. In modern theory, as in the Aristotelian theory, this consists primarily,

as we have seen, in the transfer from body to body of a something called in both theories "energy," and in both theories also the fundamental type of change is local motion. In the theory I have outlined above that which is transferred from centre to centre or from one group of centres to another will be ether-particles. Each ether-particle will represent a unit of energy and the quantum of energy will be sA , the number of particles in a unit pyramid of s shells, while mass will be a function of the number of centres and of p , the number of particles in their first shells. The state of each unit system can thus be defined in terms of two variables, s and p . If it changes, it can do so only by either losing particles to, or gaining particles from, other systems. And in general for any system, or group of systems, what x gains y will lose, and *vice versa*; so that the sum of loss plus gain will be constant. Ether-particles as units of energy, will obey the first law of thermo-dynamics. They will also obey the second law. For, since the mass-centres are specifically identical, each will tend to acquire, and by way of loss or gain will ultimately acquire, the same number of particles and the same number of shells. So long as between two centres there is a difference either in s (the number of shells surrounding it), or in p (the number of particles in its First Shell), there will be interaction, and one will gain from the other until equilibrium is established. When equilibrium is established, however, no further exchange of particles can take place, and since all process is process towards equilibrium the amount of change taking place in the universe will constantly decrease.

There is another way of putting this which suggests a meaning for that mysterious term "entropy." If T' , T'' , T''' , etc., be the surplus EP (plus or minus) which a set of MC has, these quantities will not only have an average, but by interchange of particles the average will ultimately be realized, provided the set of MC be isolated. But no sets of MC are really isolated, hence the

interchange will still go on and the surplus be shared by other sets of MC, the amount of the surplus decreasing with the number of unit-systems with which it is shared. The surplus EP, at first distributed erratically, will tend to distribute themselves uniformly. The possibility of further change, Aristotle's potential energy, which to-day exists under the *nom de plume* of heat, will decrease as the uniformity of distribution amongst the EP increases, and the latter will increase with the number of centres between which the surplus EP are shared. Entropy is uniformity of distribution of ether-particles amongst mass-centres. It is continually increasing in the universe at large, because all mass-centres, being specifically the same, tend to have the same distribution of particles around them, and gradually realize in act that of which they have the potentiality.

A further deduction from the principle of uniformity would seem to have bearings on physical theory. Not only will ether-particles tend to be evenly distributed with respect to mass-centres, but the mass-centres will tend to become evenly distributed with respect to one another. Now, in the geometrical arrangement of particles which we have described above there are two sets of particles which lie symmetrically with respect to any centre, namely, (a) particles pertaining to the same shell and to one of the axes, and (b) particles pertaining to the same shell, which also lie centrally with respect to one of the sections I have called pyramids. The latter will occur in every third shell and will be linked to the centre by two pyramids which together form a parallelepiped. Hence, where there are six particles in the first shell there will be eight of these parallelepipeds, which will link eight corresponding particles in each third shell to the central particle. I suggest that it is thus that mass-centres are linked together and characteristically disposed with respect to each other. Each mass-centre will tend to be surrounded by *eight* other mass-centres, each pair linked together by a parallele-

pipied of ether-particles. Let us call the shells in which these mass-centres occur, mass-centre-shells, then, when thus arranged, the number of mass-centres in any such shell will be—

$$\frac{8}{3}s(s^2 + 2) \dots\dots\dots(9)$$

where s is the number of the mass-centre shell. For the first and second shells this number will be 8 and 32, respectively. Eight, moreover, will be a factor of this quantity in each case. It is also the characteristic number which recurs in the periodic table of the elements. Incidentally, we may also remark that it involves us in a fourth dimension.

In his "Principle of Relativity" our president quotes with approval the saying of Poynting and Thomson that the ultimate aim of physical science is "to describe the sensible in terms of the sensible." It is this that I have attempted to do, and shall now content myself with describing briefly how I picture the relations between mass-centres in the complex groups which form what we call sensible bodies. I accept the picture of molecules and atoms more or less as it stands in modern physical theory. It is with the internal structure of these entities that I am concerned. I picture them when in the liquid or gaseous state as comprising two parts, an inner system of shells in which the mass-centres occur, and an outer system in which there are no mass-centres. In the solid state this outer system is reduced to a minimum. The inner system thus comprises a number of unit systems, in each of which there is one mass-centre surrounded by a number of EP shells. Let the average number of shells in each unit system be \bar{s} and the average number of particles in each shell belonging to this unit system be $\bar{p}s^2$. Since \bar{p} can never become greater than two, if EP are added to the system either the average number of shells surrounding each MC must

increase *or* the increment must lie outside the inner system. If the former, the mass-centres will move further apart as measured by the number of shells lying between them. If the latter, either the number of shells surrounding the inner system of MC will increase *or* the number of particles in these shells. But \bar{p} , which is a factor of $\bar{p}s^2$, the number of particles in these shells, can never exceed two. Hence, when \bar{p} attains the maximum, the number of shells alone can increase, in which case the atoms or molecules themselves will move further apart and the body in question become liquid or gaseous. Should the increase of EP added be rapid, the increase of shells will be rapid, and the process will express itself as an explosion.

The rapidity of this process will depend upon the ratio of the increment of EP to the number of EP already in the system concerned, and hence, ultimately, upon the difference between the average p of this system and the system from which the EP are received. If the latter be in excess of the former the process will be as described above; but if the former be in excess of the latter the reverse process will take place: unit systems will draw closer together and the number of shells will diminish.

Attraction and repulsion, contraction and expansion, are twin expressions of the same law. When systems are internally in equilibrium, they depend not upon the internal condition of a pair of systems in the one case and a single system in the other, but upon the relation of these systems to their environment. Where systems are gaining EP from their environment, they tend to expand individually and to repel one another; where they are losing EP to their environment, they tend to contract individually and to approach one another.

To complete the picture there is one other point I must make clear. I have distinguished in any complex system of MC, but more especially in gaseous systems, an inner and an outer layer

of EP shells. The outer layers are free from MCs, the inner layers contain them. At their centre, let us suppose, there lies a single unit-system with its mass-centre and surrounding shells. Between its outer shell and the inner shell of the outer layer of shells lie the other MC systems, each with a mass-centre and with shells of EP surrounding that centre. Since these EP are, *ex hypothesi*, each in immediate relation with six others, they will also form shells, concentric with the unit-system which lies at the centre of the whole. If we know the number of centres they contain, and the number of particles in their first shells, it will be possible to find (1) the average number of shells surrounding the centre of the system, and (2) the average number of particles in these shells in terms of ps^2 , where s is the number of shells counting from this centre. But since ps^2 will here depend not upon the number of particles in the first shell of one MC, but upon that of eight or some multiple of eight, this being the number of MC in the MC shells, the value of p here can exceed two. For, if s' be the outer and s'' the inner MC shells of any system, in which the MC are relatively numerous as compared with the number occurring outside this medium, then, since the particles in the first shells of the MC are united in pairs the number of EP pyramids which turn inwards from either boundary will be greater than those which turn outwards. The effect will be akin to what in the theory of electricity and magnetism is termed "specific inductive capacity" and "magnetic permeability." Moreover, since within such a medium the MC will not only be closer together, but will be linked by more links, it may be possible to find here an explanation of the difference between the intensity of gravitational and electric forces.

There remains the question of distance and time, of which I have said nothing thus far, and shall say but little now, since, as an Aristotelian, I hold both to pertain rather to our method of measuring reality than to reality itself. Distance, as we measure

it, will not inform us of the number of shells intervening between centre and centre, for, in measuring distance, though we measure from centre to centre, we ignore the structure of the medium in between. True, we allow for this by introducing density or mass, or, again, inductive capacity and magnetic permeability ; but in my theory, as in the Relativity Theory, these factors will affect radial distances differently from transverse distance. Since, then, time, as we measure it, involves the ratio of a circumference of a circle to its radius, and hence, in my theory, the ratio of ps^2 to s , time and distance will be blended in all measurements that we make. We can get out of this difficulty to some extent, if we assume, as in the Relativity Theory, that EP , *i.e.*, energy, in passing from centre to centre, where no other centres intervene, is propagated with unit velocity. s will then become at once the unit of distance and the unit of time, but in the one case must be measured radially and in the other case transversely.

I doubt, however, if we shall ever get rid of relativity altogether where magnitude is concerned. We know the absolute magnitude neither of mass, nor energy, nor time, nor distance. What we do know are their relations, dynamic and static, one to another. From this, if we assume one absolute magnitude, we can deduce the others. But, unless and until we can have experience of an absolute magnitude, there will always be at least one assumption lurking somewhere.

This, I think, is the truth which Aristotle is expressing when he says that magnitude is infinitely divisible. In the abstract it is, but in the concrete we do not know ; it may or it may not be so. In the rapid sketch I have drawn above I have departed from Aristotle in this respect, but otherwise have followed his principles. The adoption in modern physical science of an Aristotelian terminology is, in my opinion, more than a coincidence. At bottom they are using the same concepts derived

from experience of the same realities. The two theories, one but little and the other highly developed in the mathematical sense, should in this case be in harmony with each other. I have suggested a way in which possibly they may come to be harmonized, it may be with advantage to both.

*Meeting of the Aristotelian Society at 21, Gower Street, W.C. 1,
on February 5th, 1923, at 8 P.M.*

VII.—PRIMARY AND SECONDARY CONSCIOUSNESS.

By MAY SINCLAIR.

WHAT do we mean by consciousness? Unless we are to be for ever arguing at cross purposes we must fix on some lowest common meaning acceptable to realists and idealists alike, involving no ontological theory.

I suppose we may agree that consciousness is at least a state of awareness, of knowing that there is "something there"; wherever and whatever "there" may be. (I can't help it if this definition is tautological. I don't know any definition of consciousness that isn't either tautological or based on the assumptions we should be trying, for the moment, to avoid.)

And I suppose, too, that all idealists, whatever their differences may be, are agreed that the world arises in consciousness, through consciousness, and is of that stuff, with no independent existence apart from it.

Now there are certain objections to this theory which seem to me unanswerable unless we can distinguish between consciousness and consciousnes. When a realist says that things do not exist because we know them but that we know them because they exist, or that it is no explanation of anything to say that "there is a mind knowing it," I cannot help thinking that he is entirely within his rights. I have no doubt that Professor Whitehead's mathematics and Professor Einstein's principles of relativity will hold good whether they leave mind out of their cosmos or let it in. Even though I cannot see how there be any principles of relativity or any mathematics without mind. But that is another story. Let us grant for the moment that the realist is right in assuming that, whatever a thing is, it is not our thinking it which makes it so.

I *think* that that table cover is green; but it is green not

because I think it but because it reacts in a certain manner to certain light waves. Thought in the world proceeds, on the whole, by way of discovery, not of creation ; there is a sense in which it finds out the colours, constructions and correlations of the universe and does not make them.

Now how can a devout idealist concede so much to realism and yet maintain that the world arises in consciousness and that it is the "work of thought" ? I think he has got to distinguish between these two statements of his position, to hold that the world arises in consciousness and through consciousness and is of that stuff, and to deny that it is the work of thought alone, and that all thought has a creative function. He has got to distinguish between thought and thought, between consciousness and consciousness, between what I shall call primary and secondary consciousness.

Primary consciousness is all that is present to the subject from moment to moment in one unitary block, or it is the continuous succession of such presences, before reflection, judgment or reasoning have set in ; before there is any consciousness of consciousness. It is all immediate sense perception, all feeling and willing. It is the sudden flash of the instantaneous present. But it is more than this, more than sense perception, more than pure immediacy ; it is the reach backward to the past and forward to the future ; it is all remembering, dreaming, day-dreaming and imagining. It is the source of the categories, of space-time and the correlations of space-time. It includes all conceptual knowledge ; it is the stream of thought, of all thinking that has thought for its current object, provided that reflection, judgment, inference or reasoning have not cried a halt. It is all pure contemplation, all knowledge, of whatever kind, on which consciousness is not doubling back. I use the present tense ; for knowledge which has been reflected, doubled back on in the past may afterwards present itself singly and primarily.

Thus primary and secondary consciousness play into each other's hands, what was primary for one moment of experience becoming secondary for another moment, and what was secondary primary.

If primary consciousness is all consciousness that has not yet returned upon itself, secondary consciousness is that return. It is the awareness of awareness. It includes all reflection, judgment, inference, inductive and deductive reasoning, all intellectual processes of experiment and discovery, even such immediacy as the flash of scientific intuition. It is the play of thought round and about its object.

This distinction between primary and secondary consciousness is not a merely formal or arbitrary one. It is fundamental and essential in this, that secondary consciousness is always distinguishable from its object and primary consciousness is not. Thus, while the one is open to every criticism that realism can bring against idealism the other remains invulnerable. The idealist, if only he observes the distinction, can render to realism the things that are realism's and yet be faithful to his God.

I am not attempting to reconcile idealism and realism. Their differences are fundamental and essential, and I do not think they are reconcilable, unless you hold with Mr. Bertrand Russell that reality is a neutral third, when the distinction becomes irrelevant. But this is not the reconciliation of idealism and realism, it is the repudiation of both.

The realists take their stand on a series of dogmatic assertions. Reality exists regardless of consciousness. Here, they say, on the one hand, is consciousness, and there, outside it and utterly independent of it, is the object of consciousness which would remain if all consciousness were gone. The relation between them, Professor Alexander tells us, is the simple relation of compresence as between any chair and any table. Consciousness and its object are here together, and yet separate, in the world. It is a haphazard encounter, left unexplained. Consciousness on

this theory will be simply consciousness, a blank transparency, so that between one state or act of consciousness (as such) and another there will be no difference discernible. At the same time consciousness is *not* just consciousness. It is always consciousness *of*. It affirms or witnesses to the independent existence of its object. At least realists tell us so.

But observe, we have nothing but their bare statement. Consciousness (I mean primary consciousness) tells us nothing of the sort. It affirms nothing but the presence of its object, its content; it commits itself to no theory of independent existence. Primary consciousness presents its object, its content, in an indivisible unity with itself. No analysis can distinguish one from the other. I am not assuming this character of primary consciousness for the purposes of argument. When I examine my own primary consciousness I find that it is so; that there is not anything within it that affirms the existence of an object outside and independent of it. On the contrary, it witnesses to the existence of objects identical with itself. The louder and more insistent that witness, that is to say, the more vivid our conscious experience, the more are consciousness and its object indistinguishable. If I may be allowed to quote what I have written elsewhere*: "until the secondary act of reflection has taken place it is impossible to shave off the thinnest slice of pure consciousness from the primary block, so entirely is it one with its object. Object and consciousness are given whole in one indivisible act or state. This is true even of casual and comparatively shallow perceptions; but when consciousness is most intense, when its content is most vivid, when consciousness has reached saturation point, its identity with its object is absolute. It is then impossible to divide what consciousness has joined. Yet it is at this point that primary consciousness is the intensest affirmation of the object's existence.

* *The New Idealism*. Book II, pp. 275-277.

“ There is no reason why this should be so if realism is true. It holds good, not only of very near and diffused objects, such as tastes and smells, but of objects in perspective and of sounds. These are facts which anybody can verify for himself by simply concentrating his attention on some object. Think, first of all, of some overpowering sensation or perception. When you see a flash of lightning, or hear the firing of two batteries, or feel the stab of toothache, how clearly do you distinguish between consciousness and its object ? And in what terms are you going to describe the difference ? You can refer the flash to its course in the sky, the firing to the French and German positions, and your pain to your tooth ; but the sky and the positions and your tooth are all parts of the field of primary consciousness ; and once you start deliberately referring secondary consciousness has set in. Where, in the overpowering moment, is your distinction between consciousness, and the flash, the shell fire, or the pain ?

“ If realism were true, you would expect the very opposite results. The more intense, the more vivid, the more stupendous the object, the easier it ought to be to distinguish it from your consciousness of it, if realism were true.

“ Or consider the profound contemplation of some beautiful thing, or of some absorbing idea ; or take ordinary, everyday perception, or ordinary, everyday thinking in its first innocence ; at whatever stage discrimination comes it comes too late to separate this pure, primary consciousness from its object. The razor blade of analytic thought can only get in between it and the secondary act. It can, that is to say, only distinguish between consciousness and consciousness.”

This is what we are doing then, when, in quietness and sobriety, we distinguish between consciousness and its object. Not even a solipsist can deny that sooner or later we do make this distinction. We are, I suggest, distinguishing between primary and secondary consciousness, and the distinction comes too late

to save the independent reality of the object. Primary consciousness has swallowed it before secondary consciousness can get a look in.

When the realist brings his fist down on the green table cover and declares that the green is "there" and not in his consciousness, he is too late. He is judging consciousness. His affirmation is the affirmation of his secondary consciousness which his primary consciousness is unable to support. It knows no difference between green and the sense perception of green.

How, somebody will ask, do I know that primary consciousness is telling the truth and that secondary consciousness is lying?

Well, I don't know, for certain; but, in the first place, I see no reason to throw doubt on this simple, familiar witness. I shall find no other so innocent, so incorruptible, so close to the reality I am looking for. It comes to me already moulded in the forms and soaked in the colours of its world. And because it makes no speculative observations about independent realities, its certainty seems to me the more irrefutable. If this witness knows no distinction between itself and its object, there is no other that I can go to for the proof. Not to secondary consciousness. For the object of secondary consciousness is not the object of primary consciousness. In its very nature secondary consciousness is at one remove from that reality.

And in the second place, secondary consciousness, distinguishing itself from *its* object, is not lying.

"Secondary consciousness is precisely that consciousness which can be distinguished from its object, that knowing which is not being, that work or 'by-play of the mind' which Professor Whitehead will not allow to interfere with the concept of nature, that side of mind which it is so irrelevant to drag in. It is all those processes of thought which are not cosmic processes, which visibly do nothing to sustain the universe. It is thought as realism would have it, separated from things.

“And it is as clearly dependent on primary consciousness as realism says consciousness should be on its object.”*

Its object is primary consciousness. It is aware of the awareness. When it judges the green of the table cover to be an object distinct from itself, that is to say, distinct from its judging, it judges rightly. Green is not there because I judge it to be there; it is there because my consciousness or some other consciousness perceives it. It is there in the space-time of some consciousness, or it is not there at all.

It is because of this patent difference of secondary consciousness from its object that realists have declared *all* consciousness distinguishable from its object.

I have taken my example from sense perception, because in sense perception the identity of primary consciousness with its object is most apparent. But in all primary thinking also this identity holds good. When I have before me a category or any concept, when I am conscious in terms of quality or quantity or relation, of beauty or of goodness, until actual reflection on this content has set in my consciousness is primary. When I think without thinking that I am thinking, my thinking is primary and remains indistinguishable from its object. But this question of thinking is extremely complicated, much more complicated than I realized when I first started on this speculation. It is very difficult to catch primary thinking in its purity, or having caught it, to keep it pure. For at any moment reflection, judgment, reasoning, thinking *about* thinking may supervene, and when this happens we are landed in secondary consciousness at once. The two become almost hopelessly mixed up. Yet even here, I think, with a little attention we may distinguish. For example, in writing this paper I can distinguish between my consciousness of the passage of thoughts through my mind, which is purely primary,

* *The New Idealism.* Book II, p. 293.

and my active processes of reasoning, the play of my thought around and about its object, which is secondary. So that the stuff of my work will be primary and my handling of it secondary, and my consciousness of my handling primary again. In the same way, if I am reading, say, the *Logic* of Hegel, my direct consciousness of what I read will be primary, my understanding will, I think, be primary, the acts of my mind in judging, criticizing, assenting and disagreeing will be secondary, and my consciousness of these acts primary. In scientific experiment and discovery consciousness may proceed from objects in what I have called the primary block to an object of secondary consciousness, a law or generalization. Or it may start with a secondary object, a hypothesis, and end with a primary object, the discovery of a new thing in the concrete primary block.

This brings us to a question which I must admit to be difficult on this theory of primary and secondary consciousness: the status of the so-called "scientific object," an atom or an electron. Does it belong to primary or secondary consciousness or both, and in what sense can it be said to belong to either? It is not an object of perception and not in this sense primary; it is not obviously an object of consciousness at all. And yet it is or should be more than a mere intellectual hypothesis. So far as it goes it justifies itself, it works, it explains phenomena. It would seem, therefore, to belong to a world of indubitably independent reality, beyond consciousness, primary or secondary. Yet this is not a status that the thorough going idealist is willing to assign to any object. What is he going to do about it?

It almost looks as if realism were in a better boat. Well, I don't think that the status of the scientific object will damage my idealist's position very badly. Not more than the existence of the world before our consciousness. For he does not take *our* consciousness, *our* knowledge to be the full measure of reality, the sole supporter of the universe. And at least we know enough

about atoms and electrons to fit them into the world as it already exists in consciousness. They are describable in terms already applicable to things existing there; they belong to the same context; they have the behaviour and the relations of objects in space-time. There is no reason that we know why they should not be objects of possible perception to senses finer than our own. Their status will depend on what we do with them. We may say of them that they are objects of secondary consciousness when assumed, of primary consciousness when discovered; or secondary as *used*, primary as contemplated.

There is no difficulty about inference and reasoning. They are, I think, manifestly secondary. But judgment presents an ambiguity. I am not certain that it can always be placed in the secondary category. If any judgment is immediate and non-reflective it should be as primary as perception itself. The point is not whether one content of knowledge is mediated through another content or not (as when we pass from one image or idea through another by association or reasoning) but whether consciousness itself is immediate or mediated, whether it is consciousness of content or consciousness of consciousness. So that, since inference or reasoning involves consciousness of consciousness, reflection, the play of mind round and about its content, they are secondary. That is to say, primary and secondary consciousness are to be distinguished empirically by attention to the action of the mind. But judgment may, I *think*, be so immediate, so implicit, as to belong to the primary block. Possibly all judgments of perception are of this nature, in which case they should be indistinguishable from their objects. On the other hand I cannot look on judgment as in any sense creative. At best it can be but a recognition of a reality already securely tucked into the bed of consciousness, and to speak of it as indistinguishable from its object (or subject) seems absurd. This question of

the implicit judgment bothers me. I wish it could be handed over to secondary consciousness and done with.

But all explicit judgments, such judgments as the realist makes when he affirms that green is there on the table, are undoubtedly secondary. And if we decide that all judgments are in the same boat, then we must say that, so far as judgment enters into sense perception, primary and secondary consciousness are mixed there and inseparable. This is not saying they are indistinguishable.

The advantage of the distinction is that it enables the idealist to make several very handsome concessions to realism, at the same time consolidating his own position.

*Meeting of the Aristotelian Society, at 21, Gower Street, London,
W.C. 1, February 19th, 1923, at 8 p.m.*

VIII.—THE PROBLEM OF FREE WILL IN THE LIGHT OF RECENT DEVELOPMENTS IN PHILOSOPHY.

By C. E. M. JOAD.

It is not easy to define free will ; it is probably impossible to define it satisfactorily. Nor do I think that it is possible to assert its existence with any confidence : at any rate it is not my intention to do so in this paper, for, although I feel a strong prepossession in favour of the belief that I do in fact possess it, it does not seem to me that there is any satisfactory logical proof either that I do or that I do not ; or, more correctly, since the existence of free will can be both asserted and denied with every appearance of logical finality, the prudent course seems to be neither to assert nor to deny.

What can be done, however, is to indicate certain conditions which must clearly be satisfied in order that free will may be possible, and this is the object of the present paper. With regard to some of these conditions most people would, I imagine, agree that their absence precludes the possibility of free will ; with regard to others it is not, I think, generally recognized, especially by supporters of so-called Vitalist theories, to what extent the various forms in which these theories are commonly formulated do in fact exclude the conditions which I hold to be necessary. I propose, therefore, to devote the bulk of this paper to a consideration of these forms of Vitalism, and to indicate the respects in which they seem to me to fail to provide for the possibility of free will, while believing that they most certainly do provide for it. In the first place, however, I must briefly glance at the so-called Materialist theories against which Vitalism is most appropriately to be regarded as a reaction, since the failure

of these theories to provide for the freedom of the human spirit, was the main cause of the reaction.

I.

The materialistic theories prevalent at the close of the last century had a scientific backing in physics, biology, astronomy and geology. Their cumulative effect was to belittle the importance of life in general and of human life in particular. Just as Copernicus abolished the primacy of man's planet within the Universe, so Darwin abolished man's primacy within his planet. The world, as the followers of Darwin and Lamarck defined it, was something fundamentally hostile, or at least indifferent to the life that had manifested itself by a mere accident within it. Life appeared to them as an alien passenger travelling across a fundamentally hostile environment, which would one day—when, for instance, the heat of the sun had sufficiently diminished—finish its pointless journey with as little noise and significance as had attended its beginning. The greater the advances made in scientific knowledge, the more relatively unimportant did the status of life appear. Astronomy indefinitely extended space, geology time, and in the vast immensities of astronomic space and geologic time life appeared as a tiny glow, which, in the absence of any directive or controlling purpose whose business might be conceived to be to keep it alight, would, at no very distant date, flicker out.

For the rest, the Universe functioned mechanically like the works of a gigantic clock. Somebody or something at some time unknown had wound the clock up and set it going; henceforward it worked and would continue to work automatically through the mere interaction of its parts. Life, presumably, was one of these parts, and was therefore determined by the others. At any rate, any modifications in so-called vital organisms were either purely chance affairs or were the result of previous modifi-

cations in their material surroundings to which the vital organisms either automatically adapted themselves or perished. Causation, that is to say, proceeded always from the material to the vital.

The materialist biology had its counterpart in the Parallelist psychology. Material changes in the body were supposed to be accompanied inevitably by corresponding changes in the brain, or—since from this point of view we may use the two terms interchangeably—in the mind. There is, in fact, complete parallelism between mind and body, so that, even if we do not assume an actual causal relationship, it is nevertheless true that all psychological phenomena are, as it were, the reflections of physiological modifications whose occurrence alone renders them possible. This at least is what the theory asserts in its milder forms. Bolder thinkers, however, did not hesitate to deny the existence of mind as a unique entity altogether regarding it merely as a rarefied form of bodily tissue. Mind is then either the sum of the neural correlates which constitute the brain, or a highly attenuated material substance surrounding the brain like the halo round the head of a saint. In either event its only function is to register cerebral occurrences, which are themselves dependent on physiological changes, which are in their turn dependent on changes in external material phenomena.

Thus in every sphere the material determines and conditions the mental; the law of cause and effect operates universally and operates from the material to the mental. With increased knowledge of biology and physiology it would become possible to account for and to predict every mental occurrence, however remote, however complicated, and we arrive at a point of view such as that of Tyndall, for whom science would ultimately be able to describe and predict all events both mental and material as forming part of "the purely natural and inevitable march of evolution from the atoms of the *primaeval* nebula to the proceedings of the British Association for the advancement of science."

It is almost superfluous to point out that such a conception of the Universe and of the position of life within it provides no place for free will. Mind for it is in no sense creative ; psychology is not distinct from physiology ; ethics is a pious illogicality. How can mind be free when it is merely the register of the body ? How can the body be free when it is at the mercy of external material forces ? In order that the will may function independently it is necessary that ethics should be a possibility ; in order that ethics may be a possibility it is necessary that we should be able to choose this and to reject that. Ethics is a structure based on the twin pillars of praise and blame : but there is no point in blaming a man for what he cannot help. I conclude, therefore, that when the Vitalists charged scientific materialism with the imprisonment of the human spirit within the chains of circumstance, their charge was a valid one. It remains to be seen to what extent their own theories in the forms in which they are normally expressed can be vindicated from the same charge.

II.

The reaction against materialism is itself largely scientific in origin. It arises, on its scientific side, from a feeling of dissatisfaction with the exceedingly vague thing that a modern materialism must be. Matter is no longer the simple entity that it was for Tyndall and Huxley. It has become just as mysterious as mind, and it is much less familiar. There is no longer a clear, definite, tangible, homogeneous something upon which the common sense of the materialist can base his irrefragable convictions. For matter we have to substitute something like the changing relationships between unreal point-events which are in relative motion, and the tendency to explain phenomena in terms of causation by spirit rather than by matter is a natural expression of one's preference for working with the simple rather than with the complex.

However that may be, the tendency to regard phenomena both mental and material as the expression, objectification, representation, call it what you will, of some all-pervasive Force or Spirit now rivals in popularity the old materialistic hypothesis of some thirty years ago. At first sight such a re-orientation of attitude would seem to be all in favour of the freedom of the will. If a creative spirit perpetually functioning is the cause of the Universe being what it is and becoming what it becomes, it is only natural to regard the free human will as its most obvious expression.

But further examination reveals difficulties, and it is these which we must now examine. All the leading Vitalist systems possess, in addition to their hostility to mechanism, one common feature: they postulate one thing and one thing only in the Universe as real, and from this thing derive by various methods the complicated manifold of mind, body and apparently inorganic matter which we know by means of the senses.

For Bergson this reality is a continuous flow or change. It is a pure becoming without marks or features of any kind, the distinctions and individuations we discern in it being due to the discriminating, selecting and cutting-up operations of our intellects. To this ceaseless flux we ourselves belong and, by the faculty of Intuition, we can at times realize the pulse of duration within us, and our participation in the stream of life. It would not be correct to say that our consciousnesses are expressions of the *élan vital*; they are the *élan vital*; and since this is envisaged as a free and creative impulsion, we too are free and creative making our own lives as we live them. Beyond the *élan vital* there is nothing.

For Schopenhauer reality is a non-logical principle called the Will. The Will is conceived as a sort of effort, a wanting or striving of any and every kind. The Will manifests itself in various representations; one of these representations is human

consciousness, another is the collection of apparently inorganic objects which we call matter. The relationship between the Will and its representations is the same as that between Kant's noumenon and phenomena. The representations of the Will are temporary and inessential and are ultimately re-absorbed in it.

A somewhat similar system has recently been propounded by M. Geley of the International Metapsychical Institute, Paris. M. Geley's interests are chiefly biological, and his object the discomfiture of the mechanists. M. Geley seeks for a directive, controlling, vital principle as the driving force behind evolution which he declares to be incapable of explanation on mechanist lines, and ultimately finds it in Schopenhauer's Will, to which he gives the somewhat forbidding title of "a dynamo-psychism." Representations of the dynamo-psychism in individuals are temporary and are re-absorbed into the psychism at death; they are absorbed, however, in such a way that each vital monad which constitutes an individual self retains the characteristics acquired by it during a conscious life time, and carries these with it into its next temporary representation as an individual. M. Geley locates the essential seat of the dynamo-psychism in the individual in the unconscious.

All these systems make much of their vindication of the freedom of the individual will; and as, in this respect, they are roughly identical, it will be convenient in what follows to treat them together.

In the first place attention should be drawn to the considerable looseness of expression which Vitalist writers adopt when they refer to the relationship between their vital principle and the individual self. The nature of this relationship is of great importance, yet it is very variously described. Sometimes the individual self is an expression of the vital principle, sometimes it is a representation of it, sometimes a modification, sometimes an objectification; when language of this type is used, a difference

in point of reality between the principle and its individualizations is clearly implied. Sometimes, however, the self is, as it is for Bergson, literally a part of the all-pervasive principle, equally real with it and falsely conceived as distinct from it. The various types of relationship suggested can, I think, be reduced to two, which it will be convenient to consider separately.

(1) The individual may be considered to be not distinct from the vital principle, but identical with it ; or (2) he may be considered to be a specialized portion of it, temporarily cut off from the main body, so to speak, but ultimately re-absorbed into it. Both of these relationships are, to my mind, untenable, and both of them preclude the possibility of free will.

(1) Schopenhauer considers that the whole Will is present in each of its representations. It is omnipresent and all-pervasive. Not only is it wholly present in each one of us, but it is wholly affirmed in each act of ours. For this reason Schopenhauer's view that the use of the Will against itself by the ascetic who seeks to cut off the Will to Live at its source, really constitutes a victory over the Will, is inconsistent with his premises, since, so long as one individual remains who is subservient to the Will to Live and pursues the ordinary sensual life, the whole Will is completely expressed in each of his desires and manifested in each of his acts.

But, if this is the case, it is clear that conflict between desires is impossible. If the whole Will is present in any one of our desires, it clearly cannot be present in any other until the first one has waned or passed away. There is thus no competition between desires ; there is only a succession of desires. Further, if it is the whole of Reality that animates each act and desire of ours, it is clearly impossible that our desires and actions should be other than they are : in fact they are not ours at all, but only representations of an all-pervasive reality.

But if there is no conflict between desires, but merely succession of desires, it is clear that any exhortation to the effect that we should suppress one desire in the interests of another, or of what is rational, is beside the point. (Schopenhauer apparently overlooks this when he tells us that we ought to turn the Will in its fourth representation against the Will to Live which is the second representation of the Will). Suppression of desire is not on this view an act of the individual's will, *i.e.*, of an entity which is other than desire ; it is simply the supersession of one desire or manifestation of the Will by another ; while, if our desires are not ours but are simply representations of the omnipresent Will, it is absurd to blame us for having them or to expect us to control them. There is indeed no means by which we could control or oppose them except by means of some further manifestation of the Will ; yet even if we suppose that Reality could control or act against itself, how can a perfectly homogeneous unity act in contrary ways at the same moment ? Plato showed, I think conclusively, that it cannot, in his proof, that the soul is not an undifferentiated unity but possesses three parts. I conclude, therefore, that even if we could admit the possibility of a relationship of this type, it rules out free will. It appears in fact to be open to precisely the same form of objection as the conception of free will favoured by orthodox theologians. If the Universe is the creation of an omnipotent, omniscient and benevolent Deity, every act of every one of His creatures proceeds ultimately from Him. He cannot then be absolved from the responsibility for any human action, His responsibility, and consequently human irresponsibility, being clearly implied by any or all of the following considerations :—

(a) If He is the sole creative force in the Universe all life derives from Him. His, therefore, is the motive power which is manifested in every act of every living creature, if only because

there is no other source from which this motive power can be derived.

(b) Even if we were to admit the possibility that pain and evil, error and inconsistency are due to human sinfulness and imperfection and not to divine omnipotence, we are compelled to inquire for the origin of human sinfulness and imperfection. Now, if there is literally only one thing in the Universe, the seeds of these qualities must clearly have been implanted by that one thing.

But if the seeds of potential sinfulness in the initial amoeba came from God, and if the chain of evolutionary causation between the amoeba and man be assumed to be complete, it is clear that He cannot escape the responsibility for the Ilford murder.

(c) If God is really omniscient there can be nothing which He does not know ; therefore He knows the future. His knowledge cannot err : therefore the future must occur exactly as His knowledge pictures it : therefore the future is determined : therefore the apparent freedom of our will to determine it, within limits as we please, is an illusion.

(2) Most Vitalists would, however, disavow the notion that the whole of the vital principle with which they identify reality is affirmed in each individual act. They prefer to speak of the individual as an expression of the vital principle, in some way divorced, though only temporarily, from the main stream. Or the individual is a specialized aspect or individualization of the main stream : or he is described as a spiritual " monad," of such a kind that the collection of such monads in itself constitutes the whole of spiritual reality, that is to say the whole of reality.

The circumstance that the relationship so envisaged is one which has never been clearly thought out, renders its formulation in precise terms impracticable. A careful examination of the ideas which writers of this type wish us to entertain will,

however, serve to illustrate not only the varying conceptions which they have in mind, but the difficulties that attend them.

It is clear in the first place that the spiritual or vital monad, which is the individual self, must be either separate from the main stream or not separate from it.

(a) If it is not separate from it, it is part of it. Whatever occurs in the individual self occurs therefore in the main stream; motions of the self are determined by the main stream and its activities are imposed by it. The self is in fact like a bubble in a river: the bubble has no life of its own apart from the river, and cannot be supposed to generate any activity in or from itself. Free will, therefore, in the sense of an individual will which can be other than and possibly opposed to that of the vital principle which constitutes the whole of Reality, does not exist. This position is in fact only a confused statement of that already considered in (1) above.

(b) If it is separate from it, we must suppose that something has intervened to separate it. It may be objected here that I am using a crude spatialized metaphor which is inapplicable to the operations of a spiritual Force. My answer is that we are compelled to think of the matter in this way, since we can think of it in no other. We cannot help thinking of the Force as a material something, although we know that it is nothing of the sort, and we cannot avoid using spatial, and therefore obviously misleading, metaphors to describe it. Let us waive, however, for the present the notion of an interrupting or intervening something, and consider first another metaphor under which the relationship between reality and individual expressions of it is described.

The real is said to divide itself up and to objectify itself in a number of individual monads. This is the language used by Schopenhauer and also by M. Geley. Now it may be admitted that if the relationship here suggested were

tenable, free will in the individual might be preserved. But is it tenable ?

The representations or objectifications in which the real manifests itself are either equally real with it or less real than it. If they are equally real with it, they must be of the same nature as it. In what sense then are they described as ephemeral, inessential and temporary ? And what of the body and brain which both M. Geley and Schopenhauer regard as less real than that monad of the Will or of the dynamo-psychism, which is objectified in the individual ? In what sense are these, which also presumably spring from the vital principle, at once equally real with it and at the same time less real, in the sense of being less important, than the mind or unconscious, or than that faculty whatever it may be, with which we are to identify the direct expression of the vital principle ?

If on the other hand we are to regard either (i) the mind or the unconscious, or (ii) the body and brain, as in some sense less real than the vital principle of which they are regarded as temporary representations, we are confronted with a difficulty equally great. We are in fact asked to conceive of the vital principle which is reality objectifying itself in something which is less real than itself, although, since it constitutes the whole of reality, nothing less real than itself can *ex hypothesi* exist. The individual, it must be remembered, is partial, finite and temporary, and, on this assumption, in some sense less real than the principle which animates him. Yet we may well ask, how it is possible that the real and eternal should be able not only to enter into connexion with but to be the inmost cause of the being of that which is unreal and temporary. Or, to put the question as briefly as possible, we may ask how reality can ever become less real than itself.

(c) There remains to be considered in this connexion the view to which we referred above that the individual self is

constituted by some interruption of the vital force or principle. The vital force, that is to say, is now thought of not as distributing itself through different channels as the result of some principle of dispersal contained within itself, but as being dispersed unwillingly through the intervention of some external agency, which opposes the main stream and diverts it into different channels.

This conception again might provide a loophole for free will, if the conception were tenable. But a moment's reflection shows that it is not.

Bergson holds that matter is the result of an intervention or interruption of this kind. The creative impulse of endless duration which is the *élan vital* does not proceed without interruption. At a certain point the flow is interrupted and, like the recoil of a spring, turns back upon itself. This reverse movement is matter. Everything is still ceaseless change and flow, but matter is a flow in the direction opposite to that of the vital surge itself. The conception is illustrated by the simile of the jet of a fountain which is life and the drops which fall back which are matter, and of the ascending rocket and the stick which falls to the ground.

But there can be no interruption without there being something to interrupt. What then is this something? It cannot be the flow itself, because this could only interrupt itself in virtue of some stoppage within itself, and such a stoppage would be the interruption which it seeks to explain; nor can it be matter, since matter proceeds from the interruption and is not therefore the interruption which causes matter. We are driven then to suppose that the real must contain the seeds of difference within itself; that instead of being pure, featureless, becoming it is *ab initio* qualified and articulated. A precisely similar difficulty attends the view that the self is constituted by a portion of the vital principle localized and individualized as the result of an

intervention or interruption of the vital principle. But, if this difficulty is a valid one, we must give up the notion that reality is a homogeneous unity ; we must in fact abandon the view that there is only one thing in the Universe.

(3) This indeed is the conclusion which is borne in upon us from whatever angle we approach the subject. Not only can we not explain the free will of individuals, if we assume that the vital principle is both the One and the All, but we cannot account for the fact of there being individuals whose free will has to be explained. Take, for instance, the account of the emergence of the Self given by M. Geley, whose view here follows very closely upon that of Schopenhauer. According to this view the Self is formed by the grouping together on principles of affinity of a number of monads, which are individual portions of the dynamo-psychism, into a temporary unit. As soon as such a group is formed, one of the monads apparently assumes a directive or controlling position, and it is this central monad which constitutes the real controlling Self.

But either the vital principle is a homogeneous unity or it is not. If it is, you cannot derive from it the principle of difference which the conception of groups of individual monads involves. For development or division into individual monads involves the assumption that the potentiality for such development is contained in the universal principle *ab initio*. There is thus an initial modification or qualification of the real. In Professor Whitehead's phrase, the real must be conceived of as being qualified by "a patience for" development and division, and not only for development and division but for just that development and division which the conception of central as opposed to subordinate monads and of monads originally connected by affinities involves.

But a real which contains within itself the seeds of division and difference, and of division along certain lines and not others, and differences of a certain sort and not others, is not a unity but

a plurality. Given a plurality, I am prepared to grant that the problem of free will assumes a very different complexion : given a unity it seems to me insoluble, if only because the problem of how a unity can develop the differences which individuality implies is insoluble.

(4) Let us assume, however, that starting from a reality which is one vital principle, we have solved the problem of differentiation into individuals, and are faced with a world of beings who are constituted by groups of spiritual monads embodying specialized expressions of the vital principle, among which a central monad is directive. And let us with M. Geley and Schopenhauer locate the seat of individuality in the central monad, or, if this alternative be preferred, in the particular arrangement or conformation of the group. Are we any nearer a solution of the free will problem ?

It is clear that the motive power of the individual's thoughts and actions must be derived from the energy and flow of the vital principle animating the central monad which is his Self. It is further clear that his general characteristics will follow directly from the nature of the central monad or from the peculiarities of the grouping of the subordinate monads. But in this event does not the difficulty of self-determinism immediately confront us ? A man, says Aristotle, does good actions (A) because he is a good man (a). He becomes a good man (a) through doing good actions (B). He did good actions (B) because he was the sort of good man (b) who would do that kind of good actions. He became a good man (b) through doing good actions (C), and so on indefinitely until we are enabled to trace the whole of a man's subsequent desires and activities back to his initial disposition, or to the initial potentialities for such and such a disposition which he contained within himself at birth.

But what is this disposition, or rather, what are these potentialities for such and such a disposition on the basis of the

view we have been considering? A peculiar grouping of monads, or certain defining characteristics of a central monad. Thus a man's activities are initially determined throughout. They are determined in two ways.

(i) By the special individuation of the vital principle in the central monad, and the resulting characteristics of that monad. These characteristics determine the future development of the individual and the nature of his reactions to environment and circumstance. If everything we think and do is ultimately derivable from a natal disposition, and if this natal disposition is itself a certain determination of the vital principle, then the vital principle must throughout be held responsible for the characteristics and resultant actions of that individuation of itself which constitutes the Self.

If, in short, A is an expression and nothing but an expression of B, then everything that happens in A can only so happen as a result of something that has first happened in B. If something were to happen in A which had not its corresponding and pre-determining counterpart in B, this something could only happen in virtue of the fact that A was not wholly an expression of B but was, in fact, something other than such an expression. But this is precisely what no Vitalist theory which holds that the vital principle constitutes the whole of reality can allow.

(ii) By the continuous operation of the vital principle within him, which is conceived of as supplying the motive force of every action, and the nîsus of every desire. If we ask why A performed action B, we may answer that it was because A was impelled to do B; and if we ask again why A was impelled to do B, we must answer again because A's was the sort of self that had impulses of that particular kind. A's actions in fact are determined by his impulses, and his impulses by his Self. Now there is no particular objection to this sort of analysis from the free-willist point of view, provided that the Self be conceived of as a free

and independent agent. Self-determinism in this event is simply another name for free will. But when the Self is simply a localized portion of a vital principle, it is clear that this determining factor can reside nowhere but in the vital principle, or, more accurately, in that special conformation of itself effected by itself which constitutes the Self.

The location of the citadel of the Self in the unconscious does not improve matters. M. Geley holds, as stated above, that the essential portion of the Self is of the very essence of the unconscious "and brings the individual into touch with that which is divine in the universe," by which, I take it, he means the vital principle itself. This part of the unconscious, presumably to be identified with the central monad, is unaffected by bodily dissolution and the dispersal of the group of subordinate monads whose coming together constitutes the whole individual. A succession of consciousnesses invests this permanent unconscious thereby creating a succession of individuals, much as a number of beads are strung together on a cord. But the unconscious does not remain unaffected by these "incarnations" in successive temporary consciousnesses. The conscious acquisitions of one life are stored in the unconscious and appear as the innate gifts of the next. Thus the good luck of life the second is the unconscious wisdom of the man who has been consciously wise in life the first; the faculties and intellectual aptitudes of life the second are the unconscious version of the conscious knowledge of life the first. The unconscious so qualified determines for M. Geley all the activities of the conscious. Like the unconscious of the psycho-analysts it is responsible alike for the nature, the strength and the appearance of the desires which appear in the conscious, and like the unconscious of the psycho-analysts it divests the conscious of responsibility.

That such a theory does destroy the notion of conscious responsibility may be easily seen. It is clear in the first place

that, if the source of all our desires is to be located in the unconscious, we are not responsible for the fact of desire. It might still be held, however, that we are responsible either (*a*) for its direction or character, or (*b*) for its strength. As regards (*a*) the direction or character of a desire will depend upon the extent to which it is, to adopt the language of the psycho-analysts, distorted or sublimated by the censor or some equivalent psychological fiction on its way from the unconscious to the conscious. This sublimation or distortion may be very marked, so that an unconscious desire to elope with the housemaid may appear in the conscious as a sudden distaste for fish for breakfast; but as the operations of the censor are normally held to be outside consciousness, it is clear that we are not responsible for the shape into which this faculty moulds our primitive desires.

As regards (*b*) it is clear that the strongest desire which we have at any moment will determine our actions. Such a desire can only be inhibited in virtue of a stronger desire to suppress it. It is not, in the last resort, reason or moral sense that makes us stay at home and read for an examination instead of going to the cinema, which, as we put it, is what we want to do, but a desire to pass the examination, or, as Aristotle would say, a desire for the good of the whole which is stronger than the desire to go to the cinema. Now if both these desires have their main-spring in the unconscious, it is clear that we are no more responsible for their strength than for their appearance.

If it be objected that we diminish or inhibit the cinema desire not by another desire, but by a controlling or suppressing act of will, it may be pointed out—

(i) That if you do not know what is going on in your unconscious, it is clear that you cannot control it. (ii) That according to these theories, the unconscious itself is, as we have tried to show, an expression of the vital principle, which is therefore realizing itself in all the desires it projects into consciousness. (iii) That

even if we could suppress these desires by will, we could only do so in virtue of some force within us which must itself be necessarily derived from the vital principle. Even, therefore, if we assume that the vital principle could be in some way turned against itself, it is clear that the responsibility for the conflict between warring impulses and for the ultimate victory of one over the other belongs not to us but to the vital principle.

It seems to me that the above conclusions follow from any theory of Vitalism which asserts that there is only one real thing or one form of reality in the Universe.

They follow because (1) A reality of this type being conceived of as a unity cannot from within itself evolve the principle of difference which is a condition of its manifestation in individuals.

(2) If there is nothing except this principle in the Universe, the occurrence of difference or division cannot be accounted for from without, *e.g.*, by a clash between the vital principle and some external obstruction.

(3) Even if we assume an objectification of the vital principle in individuals, no satisfactory account can be given either (*a*) of the relationship between the principle and the individuals, or (*b*) of how the individual is to avoid being determined both generally and in each individual action by the vital principle.

I do not think, however, that these conclusions follow if a fundamental plurality or even duality be admitted.

III.

In order, therefore, that this paper may not be impugned on the ground of mere destructiveness, I propose to indicate very briefly one set of conditions which seems to me to be such that, if the conditions could be satisfied within the framework of the Vitalist hypothesis, their operation would preserve at least a certain measure of free will for the individual.

The most important of these conditions is a fundamental dualism. This seems to me to be necessary, both in order that the objectification of the vital principle in a number of individual units should be possible, and in order that the individuals so constituted should be gifted with the power of independent action, independent, that is to say, of the vital principle.

I postulate a vital principle because on this point the arguments of Bergson and M. Geley against the mechanist view of evolution seem to me conclusive. But, in order that the vital principle may individualize itself, it appears to be necessary that something other than itself should interrupt or withstand it, thereby constituting an obstacle which it must overcome. I conceive, therefore, of this vital principle appearing in a Universe of chaos and deadness and matter (matter being defined according to the latest fashion in physics), which existed anterior to it. I conceive of it as endeavouring to instil into this world the principle of life and consciousness by imposing order on chaos and infusing vitality into matter.

In order to accomplish this purpose it requires tools or weapons but has none save those it can make for itself. Now the only material of which these weapons can be constructed is matter, since nothing save matter and the vital principle exist in the Universe. The vital principle accordingly objectifies itself in matter, dashing itself against it much as a river does against a breakwater, and, in so doing, dispersing itself into innumerable fragments. These fragments are the vital units which we call individuals.

But matter, unable to resist the humiliation of being used by the vital principle as a weapon against itself, is, nevertheless, able to impede the full realization of the purpose of the principle. The vital principle uses matter for its weapon, but it does so at a price. And the price it has to pay is that the matter that it employs is enabled to insulate the current of the vital principle

that animates it so that the insulated portion of the vital principle becomes as it were its own master. Matter in fact acts as a barrier between the vital principle and the individualized portion of it ; the principle gets through, but the portion that does get through is cut off from the main stream and is enabled to function independently. The use of a simile may serve to illustrate this conception. Let us suppose that a river meets an obstacle in its course which diverts a portion of the main river into a side stream. The flow and current of the side stream will be derived from the main river, will in fact be the flow and current of the main river, but its direction will be different, and will be different as the result of the interposition of the material obstacle which has diverted it. Its course will in fact now be dictated by its own reaction to the conformation of its banks, that is, by its reaction to its environment. Similarly the individual, though animated by the vital principle, is enabled to pursue his own course owing to the interposition of matter. It is impossible to pursue this conception here, but I should like in conclusion to apologize both for the paradox of deriving free will from matter, and for the inordinate anthropomorphism of my language.

*Meeting of the Aristotelian Society at 21, Gower Street, London,
W.C. 1, March 5th, 1923, at 8 p.m.*

IX.—PSYCHOBIOLOGY.

By E. S. RUSSELL.

THE problem which I propose to discuss in this paper is the practical one of how best to study and understand living things—it is as a biologist, not as a philosopher, that I approach my subject. The problem is a peculiarly difficult one, but it must be faced by every biologist who is not content to take over his methods and principles ready-made from some other science. It sounds like an exaggeration to say—but there is a good deal of truth in it—that biology has not yet arrived at a method and concepts of its own, that it has made shift with ideas and guiding principles picked up from the other sciences, that it has never since the days of Aristotle established itself as a science independent and standing on its own feet.

The current method in biological science is the physical or materialistic. It is very generally agreed that the living thing must, for the purposes of science, be regarded as a mechanism, immensely complicated it is true and not as yet fully explicable, but still a mechanism. The orthodox line of treatment in biological research is to apply as rigidly as may be the methods found useful in physics and chemistry. It is true that many students of living things would admit, if put to it, that they do not really believe the materialistic formulation to be adequate, but there is a definite reluctance to accept any form of vitalism, on the plea either that it involves “mystical” or “metaphysical” factors or that it is unworkable in practice.

A good example of the moderate standpoint which is taken up by many workers is afforded by Sir Charles Sherrington’s Presidential Address to the British Association last year. While holding firm to the application of physical and chemical methods to physiological problems as the only sound line of progress,

he yet admits that certain phenomena of life, in particular the processes of development, have remained hitherto quite unexplained in physical terms. "Of not a few of the processes of the living body," he writes, "such as muscular contraction, the circulation of the blood, the respiratory intake and output by the lungs, the nervous impulse and its journeyings, we may fairly feel, from what we know of them already, that further application of physics and chemistry will furnish a competent key . . . Turning to other aspects of animal mechanism such as the shaping of the animal body, the conspiring of its structural units to compass later functional ends, the predetermination of specific growth from egg to adult, the predetermined natural term of existence, these and their intimate mechanism, we are, it seems to me, despite many brilliant enquiries and enquirers, still at a loss to understand."

A somewhat similar, but much more definite position is taken up by J. von Uexküll,* a distinguished worker in comparative physiology, who holds that while the formed organism may be treated as a mechanism, the formation of the organism eludes, and always will elude, mechanistic explanation.

I do not propose to reopen here the age-long controversy between materialism and vitalism. I agree with Dr. J. S. Haldane that there is in actual practice very little difference between the two views, that "the spectre of vitalism" is nothing but "the shadow cast by materialism." In a vitalistic system like that of Driesch, for example, the living thing is still regarded as a mechanism, though its actions and processes are regulated by entelechies of a "psychoid" or cryptopsychical nature. I shall try rather to outline what I consider to be the real alternative and the necessary complement to the mechanistic treatment of living things, namely, the psychobiological or monadistic view. I am willing to hazard the opinion that only when this

* *Umwelt und Innenwelt der Tiere*. Berlin, 2nd Edit., 1921, pp. 9 ff.

view in one form or another becomes generally adopted can we hope to see biology established as an independent science with methods and principles of its own.

It is hardly necessary, I think, before this Society to enter into an elaborate criticism of the mechanistic theory of life. Its defects are obvious—more obvious perhaps to the trained philosopher than to the scientific worker, but obvious even to him if he can but free his mind from prepossessions. Let me just state briefly the main reasons why as a biologist I find myself unable to accept as adequate either the mechanistic or the vitalistic theory.

Living things appear to show a persistent and enduring individuality of action which has no parallel in the inorganic world. This individualized activity is not stereotyped or unchanging, but shows definite tendency or striving towards an end. Think, for instance, of a salmon ascending a stream, or of the growth and differentiation of a seedling plant. The activities of a living thing are coordinated to achieve some end related to its own development, persistence or reproduction. Not only so, but they are to a high degree adjustable to varying circumstances. The salmon has to surmount all sorts of obstacles in his passage to the upper reaches; the plant seedling adapts its growth to the conditions in which it finds itself, it does not unfold automatically to standard pattern like a Japanese paper flower. Granted that coordination of activities might be explained on the machine-hypothesis, it is yet impossible to conceive any mechanism which would be self-adjustable to a wide range of conditions. Nor is it conceivable that a mechanism could show active striving towards an end or goal, as every developing embryo indubitably does.

The organism must be regarded then not as an arbitrary or artificial unit, existing as such only "for us," as does a machine, but as a real unity existing in its own right and showing a

measure of independence of its surroundings, an ability to go its own way and to "answer back." No machine can possibly show individuality of this kind.

Furthermore, I cannot overlook the elementary fact that I myself am a living being and that I know from immediate experience of living that I am not a mere machine. My own activity as a psycho-physical unity or individual is clearly something quite different from purely material action. This being so, why should I attempt to force into the obviously inadequate materialistic cadre other living things whose behaviour is in its broad lines analogous to my own ?

Physico-chemical method is certainly applicable to many phenomena of life, but it fails of complete success because it cannot take into account the individuality and striving of the living thing, nor its flexibility of response. The method is necessarily disintegrative of the living reality. It must analyse vital activity into part-processes which it can then treat as physico-chemical, but in so doing it destroys what is essential in vital action—its unifiedness, coordination and tendency. Nor can it take into consideration as an active factor the past history of the organism, for it must regard past history as completely summed up in present state. Yet the past is active in the living thing in a very fundamental way.

If the mechanistic theory fails, shall we fare any better with vitalism ? I do not think one makes any real advance over the mechanistic view by assuming, as the vitalists do, the existence of some immaterial agency which guides and regulates the physico-chemical processes taking place in the living body. It seems to me that this is merely to ascribe to an unknown x psychical powers which belong, so far as our experience goes, only to an actual living thing, to a mind-body or psycho-physical individuality. We have no knowledge of a mind which can perceive without sense-organs or act without executive organs, yet this is what an entelechy

amounts to. There is the additional difficulty that this unknown x or entelechy would, in order to intervene effectively, have to be endowed with intellectual powers of a high, even miraculous order. And in actual practice the vitalist treats the living thing as a mechanism, using the ordinary physico-chemical methods of research, and has recourse to his entelechy only to get him out of the difficulties which he has raised for himself by adopting to begin with the mechanistic formulation. That a third formulation of the problem is possible I have already implied in stating my objections to the mechanistic view, and I shall now try to develop it and show that it is a workable hypothesis.

It is the hypothesis on which we act in everyday life in dealing with our fellow men. We regard them not as elaborately constructed mechanisms, but as living beings like ourselves, with like passions, desires, thoughts, perceptions. We treat them as individuals, ascribe to them the same sort of faculties as we ourselves possess. We interpret their behaviour in terms of our own experience and our own actions. This attitude of mind is absolutely and entirely different from the attitude which physical science would have us adopt. It is essentially the attitude of psychology. My thesis is that we can escape from the mechanistic view of life only by adopting in principle this psychological point of view and extending it with suitable modifications to living things in general. Stated thus baldly, the psychobiological view seems crude and even a little absurd, but I hope to show that it has possibilities as an alternative method in biology.

The philosophical conception at the basis of it is of course the monadistic one. Following out the idea of individuality which one derives from direct intuition of one's own living experience, one is led to conceive independent reality as constituted by a multiplicity of subjects, of monads in Leibniz's sense,

each an experiencing, perceiving, active individual, working out its own deep-rooted conative tendencies, and each shut off from all the rest in its own private world of perception and experience. This conception is easily applicable to the study of the behaviour of our fellow men and of at least the higher animals, and it is as we have seen the conception which we implicitly employ in our practical intercourse with them. But we do not as a rule stop to consider that their perceptual worlds must be distinct from our own. Their general behaviour is so similar to our own that while we recognize their distinctness as percipient and active individuals we do not realize with equal vividness that each must have his own private perceptual universe in which he lives and to which he responds by appropriate action.

It is fairly obvious that the behaviour of all animals can be regarded from this purely psychological or monadistic point of view, meaning by behaviour neuromuscular response to a perceived environment. It would not be difficult to show that this point of view is useful and illuminating when applied even to the simplest cases of animal behaviour. One may think then of all living creatures, in so far as they manifest behaviour, as being monads, psycho-physical individuals or subjects, each perceiving its own objective world and reacting to this perceived world in such a way as to satisfy its needs and desires. Each organism would have its own individual view-point upon the universe, and instead of the abstract, lifeless, quantitative universe of the physical sciences, which is itself merely a facet of reality seen from the standpoint of the human monad, the psychobiological view gives us a qualitative universe containing a multitude of active individualities, each mirroring in its own way that aspect of reality which is accessible to it, and has meaning for it. Each monad has by definition its own private perceptual and experiential world, which is necessarily quite separate and apart from that of every other monad. It is

above all important to note that on the monadistic hypothesis we must regard the activities of a given individual from its own point of view, in relation to the world as perceived by it, not in relation to the world as perceived by us. This is the fundamental principle of the psychobiological method as applied to the study of behaviour. It is, of course, impossible to know directly how the world appears to any living creature bar oneself; its perceptual world can only be inferred, in a vague and general way, from its behaviour. But we must not fall into the error of assuming that our own private objective world is valid for any other living creature.

When we look upon the living thing as responding by muscular activity or otherwise to a perceived situation the formulation is an entirely different one from the physical interpretation in terms of machine-like reaction to stimulus. We take as fundamental and unanalysable into factors of another order the general relation, perception—conative or hormic impulse—action. Each term of this relation, and the whole relation itself, must be regarded as simple and indivisible, as having real synthetic unity or undividedness.

From the psychobiological point of view we can regard the living thing as a real individual persisting in time, retaining identity through change, responding in varied and appropriate ways to the meaningful elements in an everchanging environment, and pursuing, for the most part blindly, the ends of self-development, self-maintenance and the perpetuation of the race. The movements of the organism we can interpret as actions of a living individuality, carried out in response to its own sensed environment, in pursuance of the fundamental conative impulses which are the core of its being. The flexibility of its responses we can see to be due to the perception by the organism of the changes taking place in its surroundings and of the meaning of these changes in relation to its dominant *hormé*.

You will perhaps grant me that a comparative psychology could be worked out from this monadistic standpoint. If time permitted I should attempt to give body to my argument by applying these principles of interpretation to the behaviour of *Amœba* and the allied genus *Pelomyxa* as it is described in recent American work, but the demonstration would take too long, and I must pass on to the real crux of my case—the application of the psychobiological view to the interpretation of those deeper manifestations of life which we know as development, differentiation of structure and function and functional adaptation. These are distinguished from behaviour-action by the fact that they all imply change of form or structure of a more or less permanent kind—new creation of form, in fact. I hold that they may be considered as directly analogous to behaviour-responses for the reason that they show the same objective characteristics, namely, “whole-action” of the organism, active tendency or striving towards an end, and adaptability to circumstance. These organic responses I consider may, like behaviour responses, be regarded as actions of the living creature, slower in tempo than behaviour-actions and more or less irreversible, but alike in showing trend and aim.

I can perhaps make my meaning clear by describing a few simple instances where the analogy between response by behaviour and response by form-change is striking and obvious.

One of the most universal responses of living things, whether they be sessile or free-moving (but not free swimming), is their attempt to reach again a solid substratum from which they have been reft—the reactions described but not explained by the terms geotropism and thigmotaxis. Thus if you suspend an *Amœba* freely in mid-water it sends out long pseudopodia in all directions till it touches something solid upon which it can glide.* This is a behaviour-act, brought about by active

* H. S. Jennings—*Behaviour of the Lower Organisms*. New York, 1906, p. 8.

temporary deformation of the body. Considered psychobiologically, it implies perception by the animal of the absence of the usual stimulus supplied by the surface upon which it normally moves, implies memory therefore. This perception goes over into an impulse towards movements of a type calculated (not of course consciously) to restore the normal situation. The reaction is by movement.

If you cut a piece from the stem of the hydroid *Antennularia* and suspend it freely in the water, roots will grow out from its basal end and reach down till they meet the bottom and anchor the hydroid to it.* Here the response is by form-change—it is a morphogenetic or morphoplastic action. But, just like the behaviour-reaction of the *Amœba*, it can be interpreted psychobiologically as implying perception of the absence of an accustomed stimulus, which brings in its train the appropriate response, the response likely to restore the accustomed position.

Both these reactions must be considered as coordinated and purposeful acts. They are adapted to circumstances and are modifiable when the circumstances alter—when movement or growth in one direction proves unsuccessful, another direction is tried; when one direction of growth or movement hits it off correctly and brings the organism into contact with a solid support the type of response changes immediately and the animal proceeds to fix itself. Both types of reaction—by movement and by form-change—show the characteristics which are typically presented by the neuro-muscular behaviour of man and the higher animals—coordination, purposiveness, adjustability—and may be assumed to be, like these, real acts of an individual. It would seem that we cannot describe them adequately without using terms of psychological import similar to those which we use in ordinary life in describing human behaviour, without, that is to say, taking up the monadistic point of view. It is

* T. H. Morgan—*Regeneration*. New York, 1901, pp. 31-2.

therefore legitimate and illuminating to consider both as responses, in the psychobiological sense, actively made by a real psychophysical individual.

To take a few more examples of the same reaction to absence of support—if you pick a starfish off the bottom and hold it free in the water, it will twist its arms about and stretch its tube-feet out to their full extent in the attempt to reach the ground again—an instance of neuro-muscular behaviour, or reaction by movement. In the same way, a plant bulb in a hyacinth glass sends out long roots in a vain effort to find the earth and burrow into it. The reaction here is by means of change of form.

A plant tendril gropes round in search of a support—an action depending upon morphogenetic or growth processes. If you pick up a kitten by the scruff of the neck it reaches out its paws in all directions to claw for a hold. However different these two actions appear, they are yet similar in purpose or intent; both are identical response, though by different means, to a similar situation.

The list of parallel instances could be extended indefinitely. The essential thing about all these actions, whether the response is by movement or by form-change, is that they are coordinated and purposeful acts (I use “purposeful” here only in an objective sense) as if designed to restore the normal situation. Considered psychobiologically, they imply perception of the absence of support and an effort directed towards remedying this lack. The means of reaction adopted differ—they depend to a large extent upon the available resources of the organism, upon its structure and its way of using its organs or upon its method of growth, but the actions, considered in relation to the organism as a whole, or considered psychobiologically, are the same. It is as if the

psychical potentialities were identical in all the organisms considered, but action limited by organization.

Granted that the interpretation of these reactions in terms of perception and impulse is hypothetical, in the sense that the existence of this modicum of psychical activity cannot possibly be demonstrated with absolute certainty, may it not reasonably be held that this interpretation alone gives a real unity and comprehensibility to the phenomena observed? In a certain very real sense you can understand the response of the *Amœba* and the hydroid only if you grasp its similarity with behaviour-actions of similar intention, and ultimately its analogy with your own actions if placed in similar circumstances.

I have now stated, in a somewhat rough and ready way, the principles upon which a psychobiological view of vital activity may be based. It is clearly impossible in a paper of this scope to go on to apply these principles in detail to the many difficult and intricate problems of biology; I must content myself with stating what seems to me a possible point of view.

In the address to which I have already referred, Sir Charles Sherrington makes the following significant remarks: "Yet the living creature is fundamentally a unity. In trying to make the 'how' of an animal existence intelligible to our imperfect knowledge, we have, for purposes of study, to separate its whole into part-aspects and part-mechanisms, but that separation is artificial. It is as a whole, a single entity, that the animal, or for that matter the plant, has finally and essentially to be envisaged. We cannot really understand one part without the other. Can we suppose a unified entity which is part mechanism and part not?" To this question I should reply that we cannot conceive the organism as partly a mechanism and partly not; we can think of it either as being a mechanism all through, or as being a

unified entity. If we adopt the first point of view we can regard the organism at any one moment of its existence as a mechanism, forming part of the universal mechanism, but we cannot from the same point of view regard it as an enduring unity or individual. If we regard it as being a continuing unity, a real living individual, we are really taking up the monadistic or psychobiological standpoint—there is no intermediate view-point. The mechanistic view is a perfectly legitimate, and for many purposes an extraordinarily useful one, but it deals and can deal only with an abstraction from the living reality, with the living thing regarded as a momentary mechanism. It can take no account of continuance, development, the persistence of past experience, or adaptability. Life regarded as a continuing process, manifested by individuals which strive actively, albeit blindly, to achieve in spite of circumstances the end and aim of their being, can be interpreted only in what are ultimately psychical terms, deriving their meaning from our own individual experience of living. Vital activity is no doubt something much wider and vaguer than psychical activity as we know it, and the responses of living things must not be interpreted anthropomorphically, but we have no other standard or example of this sort of activity than the psychical activity which makes up our own experience. Hence we must use in describing vital activity terms of psychological import.

It is on this point that I differ from Dr. J. S. Haldane, with whose views I am in most other respects in general agreement. He has shown the inadequacy of both materialism and vitalism applied to physiological problems, and he maintains that biology must have laws and principles of its own. "The life of an organism," he writes, ". . . is something of prime reality, since it persists actively and as a whole, and moreover tends to do so in more and more detail with enlarging experience, so that life

is a true development.”* And again, “the ground hypothesis or conception is that each detail of organic structure, composition and activity is a manifestation or expression of the life of the organism regarded as a separate and persistent whole” (*ibid.*, p. 100). But does not this conception of life in the long run really depend on or derive from our experience or knowledge of psychical activity? Can we form a purely biological conception of vital activity, which is not shot through and through with psychological interpretations? It seems to me that the only way to uphold the independence of biology as a science distinct from the physical sciences is to adopt the psychobiological view, with all its implications.

Between the materialistic view and the psychobiological there is no contradiction, for there are no points of contact. Either the one or the other method of interpretation can be applied to the living thing, but not both at the same time without the gravest confusion of thought.

To apply the psychobiological method in practice all that is necessary is to free one's mind from materialistic preconceptions, and to look at the living thing as it is. It will appear as a unity persisting in time, expressing the laws of its own being in opposition to the envioning forces which would destroy it, responding by movement or by growth to the exigencies of the situation. This unity of the individual must not be destroyed by analysis; its responses must be treated as simple and undivided. The assumption must be avoided that organic activity is of the mechanical stimulus-reaction type. The primary questions one must ask are, what end is the living thing seeking to achieve, what individual or hereditary instinct impels it, and what is the sense-world to which it is responding? Structure and function must be treated as one and inseparable.

* *Mechanism, Life and Personality*. London, 1913, p. 98.

Function is not the mechanical outcome of structure as the materialistic interpretation implies, nor is it some mysterious influence moulding structure, as the Lamarckian doctrine would have us believe. Both structure and function are included and implied in the concept of *response*. The organism is regarded as an activity, not as a configuration. As Prof. Wildon Carr writes: "In individual activity there is no dissociation of body and mind, of thought and action, of function and structure. Mind and body cannot even be said to be united in their activity, for the activity is a unity which precedes distinction."* If the organism be regarded from the psychobiological standpoint no use can be made of the concepts of physics and chemistry, for they are applicable only to a material configuration. To treat the organism as material means dissociating the two aspects which together make up the living reality; it means destroying the real unity and continuity of the vital process. The psychobiological view is therefore entirely distinct from the mechanistic, and the two cannot clash. They are alternative methods—complementary in the sense that each emphasizes an aspect which the other neglects, but the interpretation of a biological phenomenon cannot be mechanistic up to a point, and psychobiological after this, it must be either mechanistic or psychobiological. We have in fact two distinct lines of attack upon the problem of life, starting out from diametrically opposite positions. The problem is probably an insoluble one, as life is a fundamental reality of which our psychical activity is a derivative, but we can attack it from the two ends of the scale, from the material end and from the psychological end.

I cannot forbear to quote from Prof. Wildon Carr's book another passage which sums up the whole thing. Taking the fine old parable of the mustard seed, he writes: "The small

* *A Theory of Monads*. London, 1922, p. 119.

mustard seed is a constellation of molecules and atoms which obeys the atomic order of the physical world. Its analysis—chemical, physical, electro-magnetical—offers no difficulty, neither, save for obvious practical difficulties, does its synthesis. So far as it belongs to the atomic order its nature is transparent. But then there is something else, something which makes the mustard seed no part whatever of the atomic order, something indescribable as anything, something which not merely defies scientific analysis and scientific synthesis, but in respect of which scientific analysis and scientific synthesis are meaningless and absurd. We can analyse and synthesise a constellation of molecules, but we cannot analyse and synthesise a past experience, or a present activity, or a prospective end or purpose. These belong to a monadic order. It would, of course, be merely figurative to speak of the mind of a mustard seed ; but when we consider the mustard seed in the unity, simplicity and indivisibility of its individuality, holding in its present activity its past and expressing itself from its own standpoint as a finite living individual centre, the mustard seed is a monad. The monad is not, therefore, the concept of an exalted order of existence, transcending or hovering above a lower mundane order, it is any reality when we view it from its own individual standpoint. Anything, however lowly and however limited the range of its activity, which we apprehend as being itself the subject of individual experience—a subject owning its predicates, not a substance displayed with its attributes to the contemplation of another—is a monad.” (*Op. cit.*, p. 22.)

My position as a psychobiologist is that this monadistic point of view can be applied with success to the problems of biology both in the study of behaviour and in the study of morphogenesis, and that it forms the only real alternative to the mechanistic formulation. Fully to justify this statement would entail writing a treatise on biology from the psychobiological point of

view, and I cannot here attempt with any prospect of success even to outline the general treatment which would be necessary. That is a task for the future. I have been concerned only to put before you in a tentative way and offer for criticism the proposition that the psychobiological point of view is a possible and practicable one.

*Meeting of the Aristotelian Society, at 21, Gower Street, W.C.1,
on March 19th, 1923, at 8 P.M.*

X.—DISCUSSION OF DR. WILDON CARR'S "A THEORY
OF MONADS." OUTLINE OF INTRODUCTION..

By HILDA D. OAKELEY.

THE great importance as well as the difficulties of this theory seem to lie in its attempt to combine into a unity the stand-points of Idealism and of Creative Evolution. I would by no means suggest that there is a necessary inconsistency between these standpoints, but it appears that each must demand priority over the other, and endeavour to subordinate the method of the other to its own. A system in which the two are conceived to be united by means of the concept of reality as activity suggests new philosophical problems, and is of great value as a stage in that history of the mind which, as I believe Dr. Carr holds in agreement with Croce, is itself philosophy.

I have only attempted to discuss one or two of the problems which seem to arise in connexion with the general point of view, and particularly in regard to the knowledge of the Monad, and to Monadic intercourse. The argument is of such complexity and many-sidedness that it is impossible to do justice to it without a close analysis of the book, and this would be beyond the scope of an introduction. It has seemed best, therefore, to assume, as no doubt I may, that the substance of the book is familiar to members of the Society.

* * *

The form in which the problem of escape from the solipsistic dilemma is envisaged in the preface suggests a line which leads into the heart of the philosophical theory.

"For many years it has seemed to me that philosophy was paralysed by the inability to offer any escape from the solipsistic dilemma, and in the theory of Monads this difficulty has always seemed to assume its most intractable form. . . . The

argument developed in the second chapter, and illustrated in the tenth, satisfies me on this point."

A consideration of the book in connexion with this problem will deal with the standpoint in regard to the nature of knowledge, of the material world, of inter-monadic intercourse, and of the ultimate reality, within or beyond experience.

The problem of knowledge is conceived from the standpoint of relativity, and the doctrine of perspectives. The material universe, as primarily interpreted on the basis of the relation between body and mind, results from the dichotomy of experience essential to activity, since activity can only be conceived as an opposition of two antithetical forces. It will be noticed, however, that there is no equality between these forces. The duality is a form necessary to activity. But "the two orders are not of equal validity. When we view reality as atoms we are taking an abstract view for a practical end." (Chap. I.) Matter does not seem to be accorded the status even of the Platonic Necessity. It may, perhaps, be described as phenomenal, though presumably *phenomenon bene fundatum*. These expressions, however, are not used by Dr. Carr. It is, as he says, "An indispensable, absolute condition of living and conscious activity, that things thought of should present themselves as independent of, prior in existence to, and alien in reality from, thinking." "The ego, in affirming itself, posits the non-ego." And further, he agrees with M. Bergson in the view that matter is an aspect dependent on intellect. Intellect and matter are correlative. Thus the material universe does not arise, as with Leibniz, from the confused perceptions of the Monads.

In regard to Inter-Monadic Intercourse, the "intractable" character of the difficulty depends partly on the Monadic assumption that it is impossible to know the inner side of the Monad, its "in-itself-ness," partly on the nature of the Monad as life

rather than mind. The solution offered is by means of the conception of "Activity" (which I take to be the core of the metaphysical theory), as the reality of the Monad. In mental activity it produces images creatively through which it arouses a corresponding activity in the mind of another. It will be suggested that the striking conception of "æsthetic activity," which is so elaborated as to present a very living portrait or schema, so to speak, of "the world as my idea," is not by itself sufficient to explain inter-subjective intercourse, but that this becomes more intelligible in connexion with the final view of Monads as belonging to a larger whole of life, or consciousness.

A.

At the outset of a consideration of the Theory of Knowledge it may be pointed out that the doctrine of the Monadic nature of reality seems to be based on intuition. Dr. Carr, indeed, holds that modern science confirms his view, requiring, namely, the postulate that Monads constitute the real, to make its results fully intelligible. But the original basis seems indubitably intuitional. The following passages bring this out.

(1) "No philosopher can reject the proposition that Philosophy is Monadology," in the sense in which it is laid down, because it indicates the "fact of living experience—the mind of the finite individual which each of us *experiences in himself and recognizes in others.*" (Chapter I.) I have put these words in italics in order that they may not be forgotten when we come to the statements that "It is only for a Monad that there are Monads; a Monad is not in and for itself a Monad, that is, one of the Monads," and "Monads are things in themselves, for in themselves they are subjects of experience. They know and are unknown, for to become known they would have to enter as objects into the experience of a subject, and in so far as they were objects they would cease to be subjects." (Chapter II.)

(2) "Mathematical continuity and scientific causality seem to me wholly insufficient factors to account for the living activity I am directly conscious of in the moment of experience."

(3) "I mean by life existence as I immediately experience it in living. I mean what some philosophers term conscious experience or simply experience. It seems to me to be what Descartes meant by his 'I think therefore I am.'" (Chapter VIII.) The significance of the comparison with Descartes will be referred to later.

In connexion with the position that Monadology is irrefutable, it is important to notice the interpretation (in the last book) of historic forms of Idealism, the "a priori synthesis," the "concrete universal" as essentially in harmony with Monadology, the implication, in fact, that in accepting Idealism we commit ourselves to Monadology.

B.

From the nature of the Monad it follows that knowledge must be perspective in form. Leibniz's conception is here both strengthened and qualified by arguments from modern scientific relativity. Qualified, because it would appear that from the modern standpoint a non-relative type of knowledge is inconceivable, and I understand Dr. Carr on the whole in this sense. It would seem from this that the Leibnizian idea of the knowledge of the Divine Monad is self-contradictory.

The temptation to approach the interpretation of the doctrine of perspectives by way of Dr. Carr's picturesque illustration of the soldier and the bird (Chapter II) is irresistible. The fact frequently noted during the war that skylarks apparently continued their songs through battles, undistracted by the terrific noise, provides the occasion, casting, as it does, a fierce light on the unshareable nature of experience. We are asked to suppose a universe consisting of two subjects of experience, a soldier and a

skylark, together with a battle, which is not to be thought of as a third thing, but as what each is experiencing. It is assumed that each Monad is within the perspective of the other, and that each has an existence both in itself and for another, the "in-itself-existence," not being "existentially distinct from the for-another existence." The point to be emphasized is that the essential duality is a duality of experience. There is no identity of meaning in the experience of the two Monads.

"On the objective side there is no common factor." Yet there is an "essential oneness," inasmuch as "reality is not shared out between the two Monads, so that part is appropriated by one, part by the other." Each is within the other's perspective, and in coming into it leaves nothing of itself outside, though "the perspective of the included Monad is not part of the perspective of the Monad in which it is included."

It seems to follow that in so far as the perspective of each subject is constituted by other Monads it is in some sense of a merely phenomenal character. Here there arises a perplexity, the consideration of which belongs to the question of "Intermonadic Intercourse."

Dr. Carr's frequent choice of illustrations in which the perspective, or one of the perspectives, is that of an animal consciousness is of great significance. It may be taken to emphasize the fact that he conceives the problem of Monadic knowledge primarily from the standpoint of the living being as conscious, rather than that of the conscious being as mind. This is one of the most salient points of divergence from Leibniz, and makes of Dr. Carr's Monadology a new philosophy, although I venture to think that he does not always realize how great a change is thereby introduced into the spirit of idealism. The treatment of the perspective nature of experience in the light of the animal consciousness has the advantage that it compels us to face the problem of relativity in its widest aspects. The illustration (Chapter XIII)

from the various forms of life observed on a rocky coast, from the "zones of vegetation" in the tidal area, to the ranges of bird activity, within which even highly organized creatures, cormorants and gulls, having some resemblance to each other, appear to be fixed by their nature "to one narrow range of actions in which their interest is vital and unconscious of all that interests another species," demonstrates again, in this view, that there is no "objective basis in reality" common to all, and to which each kind of being has a different relation. There is nothing "abstracted from the experience of cormorant and man," identical in the experience of each. (What is identical is "the life of which each is the expression.") This is, on one line, the farthest point reached in the history of the doctrine that "man is the measure of all things." From the example from the cliff-walk, as from others, it is easily seen that the activity of every individual determines the articulation of its world, and in no two perspectives need the objects be articulated in the same way.

C.

The problem of Inter-Monadic Intercourse may be taken up at this point. Dr. Carr's development of the view of "Creative Evolution," in regard to the activity of mind in intelligence which wholly determines the aspect of the world for man through the fixing of his attitude of attention to life, similarly as the aspect of the world is determined for the cormorant by its vital needs (allowing, as he does, for a difference in kind between instinct and intelligence), certainly presents this problem in its most acute form. Once grant that reality is mind, "enjoyed" (if the phrase may be transferred from Dr. Alexander's philosophy) by the individual in his own consciousness, and the problem is not *how* inter-subjective intercourse is possible, but why it is so imperfect in our experience. In spite of Leibniz's denial of windows to the Monad, the idea of the Monads as "fulgurations"

"from the Divine Monad," which he throws out, and which furnishes a more philosophical explanation than that of pre-established harmony, gives opening for an essentially logical interpretation of the inter-relations of Monads. Dr. Carr's view is more rigid in its denial of the possibility of direct interrelation. The pragmatist conception of knowledge, necessitated by the application of the theory of Creative Evolution, removes altogether the notion of "points of view." It is even contradictory of this because the idea of many points of view carries with it that of a common object.

To return to the problem involved in the phenomenal character of the objects which enter into the Monad's perspective. In itself each Monad is a subject of experience, living its experience with its own perspective. Moreover, it mirrors the whole universe, and infinite Monads are within its universe. But these are included, only in respect of their externality. The greatest difficulty, as it presents itself to me, is in regard to the Monad's awareness of the existence of other subjects than itself. It can never know the in-itself existence of other Monads. Their appearance in its universe is merely as part of its perspective. The interpretation of Monadic intercourse in Chapter X seems to assume at least the possibility that there are other subjects, in order that the Monad may infer that certain of his images have been evoked by the activity of another. I must presume that the proof is given in the implications we may find in the following positions:—

- (1) "Whatever cannot be thought of as subject of experience cannot be thought of as real."
- (2) The isolation of the Monad "postulates the infinity of Monads, for there are infinite perspectives" (p. 40).

In regard to (1), it should be coupled with the statement that "Monadism accepts the common-sense belief that whatever is real

exists in itself and for itself, and does not depend for its existence on presence in the consciousness or mind of another. It accepts also the common-sense belief that objects of knowledge are things in themselves. But it rejects the common-sense belief that objects are in themselves what they are as objects of knowledge, or that knowledge of objects is knowledge of things-in-themselves, for things in themselves are Monads." (Page 45.)

In regard to (2), it would seem that in recognizing the perspective nature of its universe the Monad must admit that there are innumerable perspectives, and therefore innumerable subjects. For "the perspective of the Monad is its in-itselfness." And presumably (though this is not said by Dr. Carr), the perspective character of all knowledge is directly discoverable by the individual, in his isolated experience, for his separate moments of experience can only be unified on this assumption.

It must be borne in mind that the analysis of the nature of knowledge in Chapter II has to be combined with the theory of the origin of the distinction between mind and nature in "Monadic activity."

"The independence of nature, the priority of the material over the spiritual order, the indifference of matter to the form imposed on it, these aspects of nature are due to perspective, and arise out of the Monadic activity. Activity can only be conceived as the opposition of two antithetical forces—a centripetal and a centrifugal." Our twofold activity, theoretical and practical, equally is related to action. "Nature is our view of the universe as the range of our activity, and the form of it theoretically conforms to the use of it practically." (Chapter IV.)

"Living action as I conceive it is a progressive dichotomy. It involves two systems, antithetical in their nature, and divergent in their direction. One secures to living action its duration and gives it its free self-determining character. The other secures its efficiency and gives it mechanical necessity, inserting it into

the universal system of interacting forces. Mind and body arise in the very process of living activity." (Chapter VIII.) The theory thus indicated of the meaning of the material universe for the Monad seems to interpret it as a kind of form, necessarily contributed to its experience by each individual in the activity of life, which determines the activity of knowledge. But there is an essential difference between this a priori synthesis and that of the rationalist, since the needs of living activity in different individuals are not, according to the present theory, necessarily consistent in the form they impose upon experience. This indeed is an aspect of the doctrine of perspectives. A question, however, may be raised in regard to the matter of experience, when we remember that "A Monad does not create or produce from itself the universe, for the Monads are the true atoms of nature, and Monad does not create Monad—the Monad is a centre into which the universe is mirrored." (Chapter II.)

It is clearly not from the standpoint of existence that we are cumbered with the material universe. For consciousness (which is reality) is "the manifestation of an individual, spiritual, that is of an immaterial, object." (Chapter VIII and other contexts.) It is from the standpoint of the knowledge, or intellectual manipulation of experience into articulated objects, which is the result of practical needs that the material world is required. The Monad must externalize its experience for itself. But if this biological necessity is the only cause of its perception of the material world, why, since human mentality has the power of detaching the mind from utilitarian needs (Chapter XIII), should it not be capable of knowing the in-itself nature of other Monads? I feel that I have probably not fully understood Dr. Carr upon this question, and indeed there are passages which suggest a different interpretation of his doctrine in regard to the possibility of direct Monadic intercourse. "Besides the subject-object relation," he says in the first chapter, there is also a "subject-

subject relation, or rather there are many subject-objects." In proceeding to explain the conception of the "windowless Monad," he adduces as illustrations: "The subjective experience of a nation" which "does not cease to be the experience of the individuals who constitute the nation. When a man devotes his life to his country, in enriching his nation he is not impoverishing himself." He refers further to the concept of moral conduct, the notions of humanity, nationality, &c. "The nation is a fuller and higher degree of each individual life." Nothing passes out from the Monad's window, as it were, when he gives his best to the State.

These examples seem to indicate the influence of an idealism which would allow that the Monad is not essentially and necessarily incapable of sharing the perspective of another, in so far as it belongs to what Dr. Carr speaks of as the "mental or spiritual order."

The detailed treatment of the method of Monadic intercourse, on the conditions of a theory of "the knowledge of the Monad as solipsistic," proceeds on the principle that "intercourse depends not on the power of one Monad to impart something of its substance to another, but on its power to evoke or arouse æsthetic activity in another." By means of this conception, in Dr. Carr's view, "the problem is raised to a new and higher plane." (Chapter X.) The very interesting theory which is developed in this chapter is so subtle in regard to the question what exactly is the method of communication between one mind and another, that it seems best to recall the essential links in the argument by free use of Dr. Carr's own words. The problem before us, as I conceive it, is by what means the individual minds whose knowledge is "solipsistic," whose life needs determining the nature of that knowledge are so divergent, succeed in creating severally worlds of experience so far "common" in their analogies of meaning, that the assumption of a common

world for all is possible for the man in the street and the age-long search for an ultimate unity possible for the philosopher. Leibniz's pre-established harmony, which, of course, belongs to a different conception of the Monad, is seen to be a weak device in the light of Dr. Carr's presentation of the nature of the actual experience of communication both between rational individuals and between rational and non-rational. To this may be added the facts of infinitely varying degrees in the seeming fellow-working of minds from the minimum of co-operation by compensating unlikeness, up to co-operation, which may seem incomprehensible except under the condition of identity of universes.

Let us turn to his interpretation.

The fundamental fact is the conception of "the mind in the first moment of its expression, as an æsthetic activity, that is, an activity which expresses its intuition in imagery as the necessary preliminary of translating living force into outward action" (p. 244).

"Language means not that the sensitivity of one creature is communicated to another and certainly not that the thought or idea of one person is of itself conveyed to another person, but that the image evoked by one mind can be made to evoke a corresponding image in another mind. The problem of intercourse is therefore wholly connected with the production of an image—an image is wholly private and personal to the mind which creates it. Intercourse therefore must mean that one mind can call forth the activity of another, and the power to do so is intimately connected with the activity."

The basis for the theory of æsthetic activity is laid down in the preceding Chapter (IX), dealing with Psycho-physical Activity. It is bound up with the conception of reality of mind as activity, which may be called the leading idea of the Monadic theory, and which has a remarkable illustration in the doctrine of image-

creation. It is not possible in this outline to summarize the argument from the nature of psycho-physical experience. "When we start with the concept of reality as life and consciousness and not as something or other on which these somehow depend; when we make the task of philosophy to follow the life of the mind in its development or unfolding and thus present its history, then it is no longer a paradox" to hold that the "image-forming activity" is "the fundamental activity, the basis of perception and the condition of action."

The doctrine of recognition as "the form which prior cognition gives to new experience, stated in the chapter on Memory (VII) gives a psychological basis to the theory, "The past as from being present it becomes past gives form and substance to the present activity, and is carried along with it." "Recognition supposes memory and also constructive imagination." (Chapter VIII.) Mind is, of course, from this point of view that to which duration is essential, "an enduring agent, preserving past and projecting future action."

It seems, again, important to notice the essential difference between this conception of the creative activity of the mind, and that of intellectual idealism, because the present view does not rely for the construction of knowledge on categories of thought identical in rational intelligences. "The image is wholly private." Are images, then, no more communicable than sensations? Dr. Carr's reply to this question is in two positions emphasizing his view that "intercourse does not imply a currency like the coinage passing from one mind's possession to another's."

(1) That the image indicates that the mind has found expression, that is, language, and the mind interprets signs.

(2) Expression is continued into action, and the action arouses the æsthetic activity in another mind. (See scheme of intercourse on page 253.)

It seems possible to understand this analysis of the nature of intercourse as not wholly inconsistent in its epistemological meaning with the ordinary view, but differing in the immensely greater part assigned to the activity of the inter-communicating minds, severally, in transforming and recreating the meaning suggested by the sign, in accordance with their own experience and mentality. Each, namely, in accordance with the perspective outlook, knows the meaning in his own perspective. The general setting of the theory, however, seems to imply something more than this. Whatever "community of imagery" there may be as a result of "expressive action," there can never be identity. There remains, therefore, in the analysis, so far as I understand it, a difficulty in explaining the communication of minds as we experience it, for from the beginning to the end of the process the experience of each Monad is solipsistic. There is not even the identity which belongs to the sign in the example from wireless telegraphy, an identity of meaning suggested by the form of communication.

D.

It is probable that I have understood the individuality of the Monads in too superficial a way. When we think of the Monad as having windows, as Dr. Carr explains in Chapter I, we are not thinking of Monads but of atoms. The Monadic order is wholly different from the atomic order. The tendency to treat the concept of the Monad like our ordinary concepts, which are based on spatial schematism, is almost invincible. "The Monad is the concept of a reality, more fundamental than space and externality." The activity of the Monad is "all-inclusive," the relation of the Monads is not juxtaposition but "harmony or accord." The question, how we are to conceive this harmony, may lead us to turn to the chapter on the "Idea of God" (V).

We find that the argument for the divine being "must be based on the concept of individuality itself." The finitude of our individuality is the direct perception of a greater individuality within which our individuality is included." The notion of individuality has to be understood in accordance with Dr. Carr's view that "individual minds derive their individuality not from mutual exclusiveness but from mutual inclusiveness. There are no means of circumscribing individuality when you intend purely and solely the mind." The idea of God arises "not from any logical argument, but from the deep intuition of the essential unity of thought and action, mind and body, in our experience of finite individuals." It is this unity, then, that suggests to us the relation of God to the Universe. "The intuition of this unity is the basis of the necessity of thought which posits the idea of God, the idea of a higher unity, the infinite individual whose essence involves existence."

The chief question which is raised for me by the place of this conception in the theory of Monads, is whether it does not suggest that the philosophy may point in a different direction from that to which it inclines on the whole—a direction more in harmony with the point of view attributed (it seems) in a preceding paragraph to ordinary thought. "When we attend to the mind structure, individuals seem to derive their reality from inclusion in a greater individual." "*When we attend to the mind structure,*" it must be remembered that it is to the mind side of the duality, the subject side, that the priority in reality is given. The relation of all individuals to an infinite individual, therefore, would seem to suggest the activity in all of a universal mind, and the possibility of a unity of knowledge in which all perspectives could be combined. This does not, however, seem to be in harmony with the doctrine of knowledge, especially in that aspect in which the knowledge of the individual is essentially determined by the needs of this activity of life. For this concep-

tion would destroy the idea of a universal truth. Moreover, the ultimate reality is life, not mind as intelligence. The individuals are as "buds on a tree." When Dr. Carr likens his notion of the intuition of life to Descartes's "Cogito ergo sum," he appears to be reinterpreting Descartes, in accordance with what Descartes ought to mean. I do not think he would allow the postulate of a mind capable in its ultimate nature of other manifestations beyond that of this narrowly circumscribed life-activity.

E.

And yet there are passages which, as has been suggested, seem to hint at other possibilities. "The two orders are not of equal validity." If consciousness is the ultimate reality we seem justified in supposing that the limitations which make the problem of inter-monadic intercourse so acute are not inherent in the nature of the real, and that the Monad is not essentially unknowable.

"In man intellect has set the animal free from attention to purely animal needs and transported it into a world of purely speculative interests." "We reason that there must be a world of absolute value, and infinite resource over which conscious beings have a certain power of apprehension and accommodating action." (Chapter XIII.)

"Were it possible for man to view this human mode from a non-human standpoint, it would doubtless be its narrowness not its breadth, its bondage not its liberty, which would characterize it." (Chapter XIII.)

Does the possibility of conceiving a world of purely speculative interests, or the idea of a non-human standpoint, indicate reference to a more universal form of consciousness, which must be postulated in order to make intelligible the creative activity of consciousness as known to us. I do not think that such a

conception can be identified with that of the Infinite Individual, which is life.

Are, then, these ideas of absolute value, &c., which intellect makes possible more than epiphenomenal ?

It is probably clear that the doubt which underlies these questionings is whether the association of Idealism with Creative Evolution does not require the postulate of a consciousness or mind which may be manifested in other forms as well as in that of the Monad which is life activity. It seems best to state my difficulty frankly, although I fear that the expression of it may suggest that I have misunderstood the book at a vital point.

To return to the original question, I am in fact not convinced that the acceptance of Idealism involves the acceptance of the Theory of Monads *as conceived from the point of view of Creative Evolution*.

If I may conclude this brief Introduction to points for discussion, with a mention of those aspects of the theory which seem to me to be of the highest value, they are these :—

(1) The conception of the activity of the Monad in determining the nature of its experience, especially in the doctrine of creative imagination in Monadic intercourse.

(2) The view of limitation of the Monad's experience by its perspective nature, as conceived in this book, which seems to me to contain profound truth.

*Meeting of the Aristotelian Society at 21, Gower Street, London,
W.C.1, on April 9th, 1923, at 8 p.m.*

XI.—VARIOUS MEANINGS OF THE TERM “UNCONSCIOUS.”

By C. D. BROAD.

I HAVE nothing new or revolutionary to say about the Unconscious. The whole object of my paper is to distinguish a number of different applications of the words “conscious” and “unconscious,” and to define the different meanings which the words have in these applications. There is no doubt that this is a necessary, if somewhat dull, piece of work; for the looseness with which the word “unconscious” is at present used is a psychological scandal of the first magnitude. I shall not attempt to consider what evidence, if any, there is for the existence of the Unconscious or of unconscious states, in any of the senses of these words which I shall define; for the work of definition and distinction will take up enough space to make an inordinately long paper. I will only say that I see no theoretical impossibility in the existence of the Unconscious or of unconscious states, in any of the senses here defined. On the other hand, we shall see that, whilst it is practically certain that something exists answering to several of these definitions, it would be very difficult to prove that there is anything answering to others of them. I shall start with simple and obvious uses of the words “conscious” and “unconscious,” and shall only gradually work up to more out of the way subjects.

(1) “*Conscious*” and “*Unconscious*” as applied to *Persistent Substances*. We call a stone an unconscious being, and a man or a dog or an oyster a conscious being. Thus one use of the words “conscious” and “unconscious” is to mark out two great classes of fairly persistent substances. By calling a stone an unconscious being, I seem to mean that it neither has been, is, nor will be aware of anything. By calling a man a conscious

being, I seem to mean that he has been or will be aware of something, even if it should happen that he is not at the present moment aware of anything. Thus "conscious" and "unconscious," in this sense, seem to mean respectively "capable (or incapable) of being aware of something or other." I think it will be wise to substitute the words "animate" and "inanimate" for the words "conscious" and "unconscious" when the latter are used in this meaning and with this application.

(2) "*Conscious*" and "*Unconscious*" as applied to the *Temporary Condition of Animate Beings*. We have now to notice that a being which is conscious, in the sense of animate, may yet be called "unconscious" in another sense. A man awake and a man in a deep swoon are both conscious, in the sense that they are both animate beings. But we should say that the former was "in a conscious condition" at the moment, and that the latter was "in an unconscious condition."

"Conscious" and "unconscious," in this sense, apply to the temporary condition of animate beings and to nothing else. We might be tempted to say that an animate being is in a conscious condition when it is actually aware of something, and that it is in an unconscious condition when it is not actually aware of anything. A little reflection shows that this definition is not satisfactory as it stands. Many people believe that there is something which they call "unconscious awareness"; and they would count a man to be in an unconscious condition, even though he were aware of many things, if all this awareness be unconscious. To meet the possibility of unconscious awareness we must say that an animate being is in a conscious condition when it is consciously aware of something, and that it is in an unconscious condition when it is either not aware of anything, or if aware of something is only unconsciously aware of it. The amended definitions are now *verbally* circular. They are not *really* circular, because a new sense of "conscious" and "uncon-

scious" has turned up. We are, in fact, defining "conscious" and "unconscious," as applied to the temporary conditions of animate beings, in terms of "conscious" and "unconscious," as applied to the process of awareness. But, although the definitions are thus non-circular, they do not tell us much until we know what is meant by "conscious" and "unconscious" in this new sense. So this must be the next subject for discussion.

(3) "*Conscious*" and "*Unconscious*" as applied to *Experiences*. An awareness is one instance of what we call an experience. So we may at once raise the general question: "What is meant by the words 'conscious' and 'unconscious,' as applied to experiences?" This is the hardest question that we shall have to tackle, and much will depend on the answer that we give to it. It will be noticed that the two senses of "conscious" and "unconscious" which we have already dealt with have been defined in terms of awareness, either possible or actual. The question naturally arises: "Can we not define 'conscious' and 'unconscious,' in the present sense also, by reference to awareness?" Might we not say that a conscious experience is one of which someone is aware at the time of its occurrence, and that an unconscious experience is one of which no one is aware at the time of its occurrence?

A little reflection will show that this definition will not do as it stands, even if we can ultimately define "conscious" and "unconscious," as applied to experiences, by reference to awareness and the lack of it. It would be held by many people that there are experiences of which some mind is aware, which are nevertheless unconscious experiences. If this be so, we evidently cannot define an unconscious experience as one of which no mind is aware. The difficulty arises in an acute form over alleged cases of co-consciousness. Suppose I look for my spectacles in a certain drawer; and fail to find them at the time, although they are really staring me in the face. And suppose, for the

sake of argument, that it can be rendered probable that there really did exist at the time an awareness of the spectacles. Then this would be a clear example of an unconscious experience. Now I am certainly not aware of seeing the spectacles, in the sense in which I am aware of seeing the drawer ; and it is quite possible that, in this case, no mind is aware of this experience. Suppose, on the other hand, that Miss Beauchamp had been looking for the spectacles, and that we accept Sally's claims to co-consciousness. It might well be that Sally was aware of the experience of seeing the spectacles though Miss Beauchamp was not. Thus although this would be an unconscious experience from the point of view of Miss Beauchamp, it would not be an experience of which *no* mind is aware at the time of its happening. It is evident that, whether we think there are adequate grounds for believing in co-consciousness or not, we ought not to put forward a definition of unconscious experiences which breaks down if there should be such a thing as co-consciousness.

We ought, therefore, to modify our suggested definitions at least in the following way. We might say : " An experience which is correlated with events in a certain living body is to be called ' conscious ' if the mind which is in control of this body when the experience happens is aware then of the experience. It is to be called ' unconscious ' if the mind which is in control of this body when the experience happens is not then aware of the experience." This definition of unconscious experiences leaves it quite possible that none of them are cognized by any mind at the time when they happen, but it also leaves it possible that some are cognized by some co-conscious mind. As soon as we admit the possibility of co-consciousness we are obliged to bring in a reference to a certain *body* in connection with which the experience arises. For we have to specify the particular mind which is to be aware or unaware of the experience, and we can only do this

by saying that it is the mind which is in control of this body at the time when the experience happens.

We have now seen *whose* awareness or lack of awareness would make a certain experience conscious or unconscious, assuming that "consciousness" and "unconscious," as applied to experiences, can be defined by reference to awareness at all. But can they be defined in this way at all? "Awareness" is a very vague word, and it is certain that these definitions will only hold on some one particular meaning of it. Let us then see whether we can find any meaning of "awareness" which will make these definitions of "conscious" and "unconscious" experiences satisfactory.

I think we must begin by distinguishing three possible relations which a mind can have to an experience. These three relations are often confused with each other, and we can make no further progress until we have disentangled them. I will call the three relations which can subsist between a mind and an experience the relations of *ownership*, of *simultaneous undiscriminating awareness*, and of *introspective discrimination*, respectively. Let us go back to the example of looking for my spectacles in a certain drawer, and failing to find them though they were staring me in the face all the while. If I were asked whether I was at the time aware of seeing the drawer and most of its contents, I should answer "Yes," in one sense, and "No" in another. Certainly I was aware of seeing the drawer and most of its contents, in a sense in which I was not aware of seeing the spectacles. On the other hand, I was almost certainly not introspectively discriminating the act of seeing the drawer; for my whole attention was devoted at the time to the drawer itself and its contents. It is evident that, in the vast majority of cases of conscious perception, I am not aware of my perception, in the sense of introspectively discriminating it. On the other hand, I should certainly refuse to entertain the suggestion that I was not aware at all of my conscious perceptions. So I shall

say that the person in our example was aware of his act of seeing the drawer and most of its contents, in the sense that he had simultaneous undiscriminating awareness of this experience. Moreover, we can also say that he *owned* the experience of seeing the drawer ; it was a part of *his* mental history.

Thus it would seem that conscious experiences are always owned by a mind, and that the mind which owns them has always simultaneous undiscriminating awareness of them. But in ninety-nine cases out of a hundred it does not also introspectively discriminate them. Do we ever own states of mind of which we do not have even simultaneous undiscriminating awareness ? To answer this question, let us go back to our example once more.

We must notice that I should not normally use the words "conscious" and "unconscious" at all in describing my experience with the drawer and the spectacles. I should simply say : "I saw the drawer and most of its contents, but I did not see the spectacles." The adjectives "conscious" and "unconscious" are added later as a result of reflection and inference. I find that the spectacles must have been physically affecting my retina just as much as the drawer and the rest of its contents did. I then perhaps persuade myself that I must have seen the spectacles. And I express the obvious difference between the way in which I must have seen the spectacles, if I saw them at all, and the way in which I certainly did see the drawer and the rest of its contents, by saying that I saw the drawer "consciously" and that I must have seen the spectacles "unconsciously," if at all. Now this phraseology does imply the possibility of experiences which are owned by me but of which I am not aware, even in the sense of simultaneous undiscriminating awareness. When I say : "*I* saw the spectacles unconsciously" or "*My* seeing of the spectacles was unconscious," I imply that this experience was owned by me. And when I say that it was unconscious I imply that I was *not* aware of it in the sense in which I *was* aware of the

experience of seeing the drawer and the rest of its contents. But it seems to me very doubtful whether we have any right to use this phraseology. The natural thing for me to say is: "I did not see the spectacles"; and the plain, straightforward meaning of this is that the experience of seeing them, if it existed at all, did not belong to me. Now it does not seem to me that the facts which are taken into consideration on subsequent reflection give us any ground for reversing this view, even if they do give us some ground for thinking that an experience of seeing the spectacles must have *existed* at the time. The facts that are adduced in favour of the view that an experience of seeing the spectacles must have existed fall into two main groups.

- (i) It is argued that the spectacles and my retina were in such relative positions that light from the former must have affected the latter in a way which might reasonably be expected to produce a sensation of sight corresponding to the spectacles;
- (ii) It may be that in dreams, or by hypnosis or psycho-analysis or some other technical method, I come to have experiences or to do or say things which are difficult to explain except on the assumption that a certain experience existed in the past and that I am now in touch with it. Even if we admit that such arguments make it probable that an experience of seeing the spectacles existed when I was searching in the drawer, there seems no reason to hold that they render it probable that this experience was then owned by *me*, in any simple sense of that phrase. No doubt, if it existed at all, it was an experience which arose through the stimulation of *my* body. It is also true that it was an experience with which *my* mind can afterwards be brought in contact by suitable technical methods. But this does not suffice to prove that when it happened it was *my* experience, in the plain, straightforward sense in which the experience of seeing the drawer and the rest of its contents was an experience of mine.

Now, if this be granted, there would seem to be no very

good reason for distinguishing between the states that I own and the states of which I have simultaneous indiscriminating awareness. The only ground for distinguishing the two was that our use of words seemed to suggest that there are experiences which are mine and of which I do not have simultaneous indiscriminating awareness. But we have now seen that, even if there be experiences which arise through the stimulation of my body and of which I do not have simultaneous indiscriminating awareness, there is no good reason to call them *my* experiences. Hence, I think we may say that all experiences which I own are experiences of which I have simultaneous indiscriminating awareness, and that all experiences of which I have simultaneous indiscriminating awareness are owned by me. This, of course, leaves it quite possible that to own an experience and to have simultaneous indiscriminating awareness of it are different relations, just as to have size and to have shape are different qualities, although neither can subsist without the other. I am personally somewhat doubtful whether the alleged two relations of ownership and of simultaneous indiscriminating awareness do in fact differ. I strongly suspect that we have here just two names for a single relation. But it is not essential to my argument that the supposed two relations are identical, so long as it is admitted that one does not hold in the absence of the other.

I think that we can now define a conscious experience as follows. It is an experience occurring in connection with a certain living body and such that the mind which is controlling this body at the time when the experience happens has to the experience *at least* the relation of simultaneous indiscriminating awareness. An unconscious experience would be one which occurs in connection with a certain living body and is such that no mind which is controlling this body at the time when the experience happens has to the experience *even* the relation of simultaneous indiscriminating awareness. Now the latter

includes theoretically two possible cases, viz., experiences to which no mind at all has this relation, and those to which some mind which is not at the time in control of the relevant body has this relation. We might call these *Absolutely* and *Relatively* unconscious experiences respectively. If we accept the view that the relations of ownership and of simultaneous indiscriminating awareness agree exactly in their extension we can substitute the following more handy definitions. An absolutely unconscious experience would be one which is owned by no mind ; a relatively unconscious experience would be one which is owned by some mind which is not in control of a body at the time when the experience happens ; and a conscious experience is one which is owned by the mind which is in control of the relevant body at the time when the experience happens.

Before leaving this subject, it is necessary to say something about the *tests* for the consciousness or unconsciousness of an experience. We must always distinguish in theory, and often in practice, between the definition of something and the tests for its presence. It may often happen that the characteristics which are mentioned in the definition of *x* are such that it is not, in practice, very easy to note whether they be present or absent in any given case. And it may be that there are certain other characteristics, whose presence or absence it is much easier to notice, which are such that their presence or absence is a trustworthy sign of that of the defining characteristics. In such a case, these other characteristics will be taken as the practical test for *x*, and so the test will differ from the definition. Now I think that the test for the consciousness or unconsciousness of an experience is generally certain positive or negative facts about memory, although I do not think that any relation to memory enters into the definition of conscious and unconscious experiences. If I can remember an experience by normal means I take this as a test that it was a conscious experience ; for it is

commonly assumed that I can remember by normal means only those experiences which have formed parts of my mental history, *i.e.*, which were owned by me and of which I had at least simultaneous indiscriminating awareness. The test is not infallible. I can, no doubt, have illusory states which simulate genuine memories of my own past experiences, just as I can have illusory states which simulate genuine memories of events in the external world. Still, it is a fairly safe test so far as it goes. But it obviously does not go very far. Failure to remember an experience by normal means is no guarantee that it was not owned by me; we should all admit that there are probably vast numbers of experiences which we have owned and which we can no longer remember. Thus my inability to remember an experience by normal means is by itself no guarantee that it was absolutely unconscious or even that it was unconscious relatively to me.

We have, however, another kind of memory which we should commonly express by the phrase that "we remember *not* having such and such an experience." To remember not having the experience x is quite different from not remembering this experience. The former might be a test for the unconsciousness of an experience, whilst the latter certainly is not. What exactly do we mean when we say that we remember not having a certain experience? It will be best to appeal to an example. Livingstone said that he remembered not feeling any pain when he was in the jaws of a lion. I take this to mean that, while in the jaws of the lion, he actually introspected and tried to notice painful sensations, and that to his great surprise he failed to find any. By saying that he remembers not having painful sensations he means that he remembers looking for them at the time and failing to find them. Thus I think that to remember not having the experience x means to remember looking for x under conditions in which one could hardly have failed to notice

it if it had been a state of oneself, and to remember that the result of the search was negative.

Subject to the general possibility of delusive states which simulate genuine memories, this is a good test for concluding, either that no such experience as x existed at all, or that, if it existed, it was unconscious. It does leave open the possibility that x did not exist at all, and thus by itself it is no proof of the existence of an unconscious experience. But, if we can add to it some positive ground for thinking that the experience x really did exist, the combined evidence would be strongly in favour of the view that this state was not owned by me, and therefore, was either absolutely unconscious or at any rate unconscious relatively to me. Again, I may sometimes be able to infer from my memory of my past actions that I did not own a certain past experience, and therefore that, if it existed at all, it must have been unconscious, at least relatively to me. Take the example of the spectacles. I can remember that I was looking for them, and I can remember that I failed to find them. It is reasonable to suppose that, if an experience of seeing the spectacles had existed at the time, and if it had been owned by me, I should have found them. As I did not find them it is reasonable to conclude, either that no experience of seeing them existed at all, or that, if it did, it was unconscious, relatively to me at any rate. To decide between these two alternatives further information of a different kind is needed.

(4) "*Unconscious*," as applied to *Traces and Dispositions*. We can now pass to an entirely different use of the words "conscious" and "unconscious." It is found that, in order to account for many everyday facts about our ordinary conscious experiences, it is necessary to refer to experiences which we had in the remote past. Memory is the most obvious example of such a fact. I remember now something which I saw or heard last year, and of which I have not thought in the interval. And, of

course, there are plenty of other facts about our present experiences which can only be explained by reference to other experiences which we had long ago. We may sum up this whole mass of facts under the name of "Mnemic Phenomena," borrowing this phrase primarily from Mr. Russell and ultimately from Semon. Now, either we must assume a wholly new kind of causation, in which one part of the total cause is separated from the rest and from the effect by a considerable gap which contains no relevant events, or we must fill in this gap by some hypothetical persistent entity. Mr. Russell has tentatively suggested that the former may be the right course to take; but no psychologist has taken it as yet. We have so far assumed that such gaps are filled by something which we call "traces," and it is very doubtful if we shall ever be able to do without some such hypothesis for explaining mnemic phenomena. It is supposed that experiences leave these traces; that the latter persist; and that, when suitable stimuli excite them, they either give rise to new states of mind, such as memories, or modify states of mind which are, in the main, due to other causes.

Along with these traces we must include innate dispositions. These are assumed in order to explain those differences between the mental states of individuals which cannot be completely accounted for by differences in their past experiences and present circumstances. Dispositions are, of course, as purely hypothetical as traces. They differ from traces in their origin; since they are supposed to be innate, whilst traces are due to experiences which happened within the life of the individual. They also differ, in one respect at least, from traces in their consequences. Traces may lead, amongst other consequences, to memories of the experiences which left the traces; dispositions naturally cannot do this, for, if they were formed by experiences at all, these experiences took place in the lives of our remote ancestors. Apart from these differences, dispositions and traces would seem

to be very much alike ; and, as both are purely hypothetical and are known only by their effects, there seems to be no harm in lumping them together.

Now it is usual to call traces and dispositions "unconscious states," and some people even call them "unconscious *mental* states." They are certainly unconscious, in the sense that we have not even simultaneous indiscriminating awareness of them. And they are no doubt states of something or other. But we have no right whatever to call them "mental states" or "states of mind," except in some highly Pickwickian sense which would need special explanation. To use such phraseology implies that we know that they are of the same general nature as the only mental states with which we have any direct acquaintance, viz., our own experiences. And there is not the faintest reason to believe this. The fact is that we know nothing whatever about the intrinsic nature of traces and dispositions ; they are simply the hypothetical causes of certain observable effects and the hypothetical effects of certain observable causes. True, these observable causes and effects are experiences ; but this is not the least ground for supposing that the traces themselves are of the nature of experiences. This is disguised by the silly metaphor that past experiences are "stored up in the unconscious." Literally interpreted, this phrase is unintelligible nonsense. Suppose I am bitten by a dog, and afterwards remember the experience from time to time. The experience may have lasted for five minutes and ceased twenty years ago. To say that the experience has been stored up in the unconscious literally means that, in spite of this, the experience has *also* been existing for the last twenty years. Moreover, the dog was an essential factor in the experience ; and the dog has long been dead. But, if the experience of perceiving the dog literally persists in the unconscious, the dog himself must literally persist in the unconscious to be the object of this perception. Of course, it will

be said that no-one does mean anything of this kind when he talks of experiences as persisting in the unconscious. It is true that everyone makes haste to reject such preposterous consequences when once they are pointed out. But I think there is no doubt that many people do hold views which, if they could be induced to state them clearly, would be found to lead to these consequences. For instance, Rivers in his *Instinct and the Unconscious*, asserts that the content of the Unconscious is suppressed experiences, and gives as an example of such an experience, a fright which one of his patients had had many years before with a dog in a passage.

Of course, what persists is not the experience, but is the trace which the experience leaves. And there is no more reason to suppose that the trace of an experience resembles it or any other experience than to suppose that deafness resembles an attack of scarlet fever. The plain fact is that we know nothing at all about the intrinsic nature of traces, and that we ought therefore studiously to avoid all phrases which suggest that we do know something about it. I propose to call traces and dispositions by the innocent name of "mnemonic continuants." The reason for calling them "mnemonic" is obvious. The words "continuant" and "occurrent" have been introduced by Mr. Johnson in his *Logic*. Our ordinary states of mind are occurrents, i.e., states which happen from time to time, last for a little while, and then cease. In contrast with these, we can call traces and dispositions continuants, because they are supposed to persist for long periods, and to fill the gaps between our occurrent states of mind. The phrase "mnemonic continuants" has the twin advantage that it does express all that we know about traces and dispositions, and that it does not tacitly imply anything that we do not know about them.

(5) "*Unconscious*" as applied to *Inaccessible Experiences*. We must now consider yet another sense in which the word

"conscious" and "unconscious" have been used. To explain this I will take the example just referred to from *Instinct and the Unconscious*. Rivers quotes the case of a patient who had suffered from claustrophobia for many years. By analysing the patient's dreams, Rivers was able to show that the claustrophobia had been started by a terrifying experience which the man had had as a small boy in a narrow passage with a fierce dog. This experience, the patient was wholly unable to remember by normal means. Now Rivers quotes this as a typical example of an unconscious experience, and practically defines the unconscious, for his own purposes, as consisting of such experiences. It is perfectly clear that this is an entirely new meaning of "unconscious." When the experience originally took place it was, in all probability, an ordinary conscious experience which the patient owned. There is no reason whatever to suppose that the boy was unaware, at the time, of seeing the dog or of his feeling of terror, at any rate in the sense of simultaneous indiscriminating awareness. In this the experience contrasts sharply with that of Livingstone and the lion. Livingstone noticed that he was not aware of any pain; and the circumstances were such that if he had been aware of pain, he could hardly have failed to notice the fact. Hence, we may conclude either that there was no experience of pain at all in Livingstone's case, or that it was an unconscious experience, in the sense that it was not owned by the mind known as "Livingstone." The case of River's patient is quite different. To say that *his* experience is unconscious, means only that he cannot remember it by normal means; it does not mean that it was an experience of which he had not even simultaneous indiscriminating awareness. It seems to me to be misleading in the highest degree to use the word "unconscious" in these two utterly different senses. Rivers would no doubt say that the experience was conscious when it happened and became unconscious afterwards. This, however, does not alter

the fact that "conscious" and "unconscious" are here being used in two senses which are quite disconnected with each other. In the first sense, an experience either is conscious or it is unconscious; and if it is one it can never become the other. In the second sense, one and the same experience may sometimes be conscious and at other times unconscious, since there might well be times when a person could remember it normally and other times when he could only be got to remember it by special technical methods.

The situation which Rivers is describing is a real and important one; but the terminology which he uses to describe it is hopeless. I shall substitute for the words "conscious" and "unconscious," when used in this sense, the words "accessible" and "inaccessible" respectively. An experience is accessible when it can be remembered by normal means. It is inaccessible when it can only be remembered by special technical methods or when it cannot be remembered by any means. One and the same experience may be accessible at some times and inaccessible at others. Also there will probably be degrees of accessibility. Even when an experience can ultimately be remembered by normal means it is sometimes easier and sometimes harder to do this. And I suppose that when technical methods have to be applied they sometimes succeed easily and sometimes with difficulty. Corresponding to the distinction between accessible and inaccessible experiences there will be a distinction between accessible and inaccessible mnemonic continuants. Innate dispositions, so far as we know, are wholly inaccessible, *i.e.*, no methods will enable us to remember those experiences of our remote ancestors which presumably were the ultimate source of many such dispositions. Traces will have various degrees of accessibility, but there will be a broad division between those which normally give rise to memories and those which can only be made to do so by special technical methods.

The work of the psycho-analysts enables us to state one at least of the causes which tend to make certain experiences inaccessible. If the memory of a past experience would be specially painful or shocking to the present self, there is a tendency for this experience to become inaccessible. It is sometimes said that the painfulness or shockingness of the original experience tends to have this effect, but I think that this is only true in a derivative way. The essential factor is the emotional effect which the *memory* of the experience *would* have if it arose *now*. Now the memory of many experiences which were quite enjoyable at the time may be shocking or painful to the present self. Such experiences will tend to become inaccessible in spite of their originally pleasant character. Again, the memories of some experiences which were at the time painful or shocking may be quite pleasant and amusing to the present self. I see no reason to think that such experiences would be specially likely to become inaccessible. All that we can say is that, in a good many cases, the memory of an experience which was painful or shocking when it happened would be likely to be itself painful or shocking to the present self. So far as this is true painful or shocking experiences will tend to become inaccessible.

(6) "*Unconscious*" as applied to *Undiscriminated, Misdescribed or Unacknowledged Desires and Emotions*. I think it is necessary to recognize yet another sense of "unconscious," which applies specially to desires and emotions. It is rather closely connected with the sense which we have just been discussing, but it must, I think, be distinguished from this. I have said that we have simultaneous undiscriminating awareness of many experiences without introspectively discriminating them. Introspective discrimination involves a special act of attention, which we can make or not as we like. And, if we choose to make it at all, we can take more or less trouble over it and carry it out more or less thoroughly. Even if we choose to make the

attempt, and perform the discrimination to the best of our ability, we can make mistakes as to the right analysis of our experiences, just as we can make mistakes in trying to analyse and describe external objects which are presented together in a confused jumble in our field of view. Introspective discrimination is a difficult and tiresome process, and no one who is not used to it is likely to avoid mistakes.

Now there are two classes of experience about which we are specially and systematically liable to make mistakes, and these mistakes may take several different forms. The two classes in question are desires and emotions. Desires and emotions are *the* experiences *par excellence*, about which we pass judgments of praise and blame on ourselves and others. If we find that we have certain desires and emotions, we are obliged to think badly of ourselves; and, if we tell other people that we own such desires and emotions, they will think badly of us. We thus have a strong tendency not to discriminate these desires and emotions; or, if we do discriminate them, to misdescribe them to ourselves; or, if we discriminate them and describe them rightly to ourselves, to refuse to acknowledge them to others.

Now, in the case of emotions, we can go wrong, either about the state of mind itself or about the nature of its object. There is, perhaps, hardly any emotion which is regarded as intrinsically bad, *i.e.*, as bad no matter what kind of object it may be directed to. The rule seems to be that one and the same emotion is good when directed on to one object and bad when directed on to another object; and, conversely, that of two emotions directed on to one and the same object, one may be good and the other bad. It is considered virtuous to hate *sin*, but wicked to hate even sinful *people*. And it is considered virtuous to feel *emulation* towards one's rivals, but wicked to feel *envy* towards them. There are thus three methods of saving one's self-respect when one feels a certain emotion towards a certain object and when

one thinks that this sort of emotion ought not to be felt towards this sort of object. One method is to ignore the existence of the emotion altogether, *i.e.*, to refuse to turn our discriminating introspection in this dangerous direction. A second method is to discriminate the emotion properly, but to substitute for its actual object a pretended object of such a kind that it *would* be respectable to feel this emotion towards *this* object. I may really hate Smith or hate Germans, and may recognize that I am feeling the emotion of hatred. And I may persuade myself and try to persuade other people that what I hate is, not Smith or Germans as such, but the special wickedness of Smith or of Germans. A third method is to make no mistake about the object, and to recognize that I do feel an emotion towards this object, but to substitute for the emotion which I actually feel, and which I know that it is not respectable to feel towards that sort of object, another emotion which it would be respectable to feel towards it. I may recognize, *e.g.*, that I feel a certain emotion towards the success of a fellow philosopher's book, and I may pretend to myself and others that this is the respectable emotion of healthy rivalry when it is really the disreputable emotion of disappointed envy. This method is easiest when the real and the pretended emotion really do resemble each other or contain common ingredients, as envy and rivalry do. Methods two and three may, of course, be combined with the happiest results. The two emotions of malice and of righteous indignation are different, but they certainly contain common factors. And their objects are different, but have something in common. Both involve pleasure at another's pain. If now I actually feel malice towards Smith, I can easily retain my self-respect and the respect of others by persuading myself and them that I am really feeling an exalted kind of satisfaction in the thought of Smith's moral improvement through suffering. One of the chief reasons for the extreme popularity of war with women and other non-combatants is that

it renders such substitutions easy, and enables quite ordinary people to go about swelling with pretensions to moral superiority which would be exploded at once in a more normal atmosphere.

The case of desires is in one way simpler than that of emotions. There do not seem to be intrinsically different kinds of desire, as there are intrinsically different kinds of emotion, such as fear and envy. So far as I can see, desires differ only in their intensity and in their objects; and the rightness or wrongness of a desire depends almost wholly on the nature of its object. If then I entertain a desire for some object which it is disreputable to desire, there are only two courses open to me if I want to keep my present high opinion of my moral character and to confirm other people in their high opinion of it. I must either ignore the existence of the desire altogether, or I must persuade myself and others that my desire is for some different object which it is considered respectable to want. As our motives are nearly always mixed, this process is childishly simple. It is only necessary to emphasize that part of the total desired object which is considered respectable, and to slur over that part of it which is considered disreputable. It is needless to offer examples of a process which we are all doing continually.

There is one other point to be mentioned about desires. It has been brought out very clearly by Mr. Russell in his *Analysis of Mind*, though I do not think that it covers nearly all the cases to which Mr. Russell applies it. What we desire at any moment is what we then think will satisfy us. This may be extremely different, both in outline and in detail, from what really would satisfy us. Now we have no infallible revelation as to what kind of state will bring a certain kind of uneasiness to rest; we cannot learn about this by introspection, however careful or thorough, but only by personal experience. The recorded experiences of others may provide us with the basis for a probable inference on the subject; but, in the main,

the only policy is to "wait and see." Now sometimes it is said that what we "really desire," is what would in fact satisfy us. With this terminology it is certain that we are often not conscious of what we really desire, even though, in another sense, our desire is perfectly conscious. I think that this is an unfortunate terminology. It is much better to contrast what we desire or want with what we need. I may set before myself the idea of a large fortune and strive to acquire it. If so, it is preposterous to say that I only think I desire money; I really do desire it. On the other hand, I may find that, when I have made a great deal of money, the same kind of dissatisfaction persists. And it may be true that this dissatisfaction would have been brought to rest by the acquisition of fame. If so, I *needed* fame. But it is preposterous to say that I *desired* fame, if I never put the idea of fame before myself or strove after it as an object.

What is true then is that needs give rise to desires, and that what I desire may be different from what I need, because I have not found out what I do need. But needs are not desires, and therefore a need of which I am unaware cannot properly be called an unconscious desire. Nevertheless, there is no doubt that one of the meanings which is given to the phrase "unconscious desires," is needs of which their possessor is unaware. I shall call "unconscious desires," in this sense of the word, by the less misleading name of "unrecognized needs."

Having considered this rather special use of the term "unconscious desire," which applies to cases where there is no deception about our states of minds or their objects, but only honest and unavoidable ignorance as to what would actually satisfy our needs, we may return to the cases discussed earlier in this section. Here we have genuine desires and emotions, about whose existence, nature, and objects, we need make no mistake if we choose to introspect carefully enough. We must now say a little more in detail about the process of ignoring such experiences.

If I am going to ignore a certain desire or emotion, which I actually own, I must, in some sense, know that it is there and that there is a reason for ignoring it. Now I have suggested that we have at least simultaneous indiscriminating awareness of all the experiences which we own. I suggest now that this kind of knowledge suffices to warn us that the ice is thin in certain places, and that we had better not turn our discriminative introspection in those directions. The question might now be raised: "How far is this aversion of discriminating introspection from certain desires and emotions a deliberate process?" In answer to this, I think that the following considerations are of importance:—(a) If we have a desire to ignore certain experiences, because we suspect that they would turn out to be unflattering to our self-respect, this desire is itself an experience which we shall tend to ignore. For it is not flattering to our self-respect to recognize that we can only keep it by averting our attention from certain of our desires and emotions. It follows that, if we do deliberately ignore certain desires and emotions, we shall almost certainly refuse to acknowledge the fact to ourselves, and still more so to others. Thus I think that the aversion of our discriminative introspection from certain of our experiences is much oftener deliberate than it is admitted to be; (b) An aversion of introspective discrimination which starts by being deliberate will quickly become habitual. An analogy will make this plain. If I have a tender tooth I shall at first deliberately try to avoid biting on it, and shall sometimes make mistakes and hurt myself. But very soon I shall automatically avoid biting on it. Now emotions and desires tend to recur, and if I at first deliberately avert my attention from some of them, I shall very soon learn to do this habitually in the future. This habit, like any other, may eventually grow so strong that it cannot be overcome by deliberate volition; (c) A method which we very commonly use is to put a ring-fence

round a certain region, to label it "dangerous," and to avert our attention from the whole of it. All patriots do this with the whole subject of the virtues of their enemies and the faults of their fellow countrymen; many scientists put such a fence round all the subjects which are investigated by Psychical Researchers; and the minds of most clergymen appear to be full of regions guarded by barbed wire and a notice that "Trespassers will be Prosecuted." Once this has been done it becomes very easy to assert with perfect good faith that we are not deliberately turning our attention away from any assigned desire or emotion which falls within such a region. We can truthfully say that we never thought for a moment of this particular experience and therefore cannot have *deliberately* ignored it, just as a thief might truly say that he had never touched a certain necklace if he had merely pocketed the case which in fact contains it.

Now I think it is quite certain that what are called "unconscious" desires and emotions are often simply desires and emotions which have been habitually ignored in the ways described above. I propose to substitute for the word "unconscious," when used in this sense, the phrase "habitually ignored." An experience which is unconscious in this sense is not unconscious in any of the senses which we have already noted. It is owned by the person who ignores it, and he has simultaneous undiscriminating awareness of it. And such experiences cannot be identified with those which have become inaccessible. Many experiences which have become inaccessible were not ignored when they happened, and many which were ignored when they happened have not become inaccessible. Nevertheless, there probably is a close connexion between ignored and inaccessible experiences. Experiences which it would be painful or shocking to discriminate are generally those which it would be painful or shocking to remember, and these, we know, tend to become

inaccessible. Moreover, the mere fact that a certain experience is habitually ignored probably tends to make its trace less definite and more isolated, and therefore to increase the difficulty of remembering it by normal means.

The two other processes by which we deal with emotions that fail to flatter our self-respect may be called respectively "misdescription" and "dislocation." Misdescription consists in confusing the actual emotion with another which is considered more respectable under the circumstances. Dislocation consists in substituting for the actual object of an emotion an imaginary object towards which it would be respectable to feel the emotion in question. As we have seen, misdescription and dislocation often take place together and help each other. Undoubtedly, many experiences which are called "unconscious" are simply experiences which we habitually misdescribe or dislocate. Such experiences are conscious, in all the senses of that word which we have previously recognized. If the question be raised whether such misdescription and dislocation be voluntary, almost exactly the same remarks may be made as we made when this question was raised about the ignoring of certain experiences.

(7) *Summary and Conclusion.* I will end by collecting together the various meanings of the terms "conscious" and "unconscious," which we have elicited: (i) As used to mark off different kinds of substances, like men and stones, they simply mean "capable, or incapable, of awareness" respectively. In this sense they are best replaced by the words "animate" and "inanimate." (ii) An animate being is said to be in a conscious condition, if some mind is in control of its body at the time, and this mind is actually aware of something. It is said to be in an unconscious condition, if no mind is in control at the time, or if the mind which is in control is not then aware of anything. (iii) An *experience* is said to be conscious, if some mind which is in control of a body at the time when the experience happens has

at least simultaneous undiscriminating awareness of it. It is said to be relatively unconscious, if the only mind which has this relation to it is not in control at the time. And it is said to be absolutely unconscious, if no mind has this relation to it. As it seems probable that ownership and simultaneous undiscriminating awareness always go together, we can substitute the former for the latter relation in the definition. This is the only *literal* sense in which we can talk of unconscious *experiences*. Whether there is any adequate ground for believing in their existence is left undiscussed in this paper, though certain tests are suggested by which we could decide that an experience was unconscious provided we had reason to think that it happened at all. (iv) Traces and dispositions are often called "unconscious states." But there is no reason to suppose that they are, or are anything like, experiences. It is therefore best to call them by the neutral name of "mnemic continuants." (v) Dr. Rivers has applied the name "unconscious" to experiences which were conscious, in sense (iii), when they happened, but which their owner can no longer remember by normal means. It is best to call them "inaccessible experiences," and to say that their traces form part of the "total mnemic mass." Such experiences do not themselves literally form part of the Unconscious, in any sense of that word; and it is merely confusing to say that the unconscious consists of such experiences. (vi) Lastly, the name "unconscious" is often applied to ordinary conscious experiences which are not properly discriminated by their owner because the recognition of their true nature would be unflattering to him. According to the different methods which are adopted for evading the recognition of such experiences we may say that they are "ignored," "misdescribed," or "dislocated." Experiences to which this happens are most often desires or emotions, and they have a tendency to become inaccessible.

There seems little reason to doubt the existence of unconscious

states in any of the senses defined, except the third. There is indeed no kind of *a priori* impossibility in the existence of literally unconscious experiences in the sense defined under (iii). The most interesting question that remains for future discussion is whether there be any facts which force us to accept the existence of experiences which are literally unconscious, in this third sense ; or whether we can account for all mental phenomena in terms of the other, and less exciting, senses of unconsciousness.

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XII.—SOME PROBLEMS IN THE PHILOSOPHY OF LEIBNIZ.

By L. J. RUSSELL.

I.

THE interpretation of Leibniz's system is closely connected with the problem of the sources of his metaphysical doctrine of the monad: the problem, viz., how far this doctrine was due to (a) his attention to the problem of the relation of mind and body, or (b) to his studies in dynamics, resulting in a conception of force, or (c) to his criticism of the nature of matter and his search for a true unity, or (d) to his logical studies resulting in the doctrine that in every true proposition the predicate is contained in the subject, or finally (e) to his study of the problems of God's responsibility for evil, of the freedom of God and of man, of God's foreknowledge, of God's grace.

If you stress (a), and think of the problem as one of knowledge, you get a monad which is solipsistic. If you think of the problem as one of interaction, you get a monad which is not necessarily solipsistic, but which is causally shut off from the rest of the universe. If (b) be stressed, Leibniz becomes thought of as the resuscitator of substantial form, and as substantializing force. From the point of view of (c), he is a pure spiritualist, finding real existence only in soul or mind. Those who stress (d), tend to regard him as standing for a pure logical atomism, and find it impossible to see how he could really hold anything but a kind of spinozistic doctrine of universal necessity. It is clear that (e) by itself is not sufficient to give the monadology, but the seriousness with which it is taken depends on the attitude taken up on the other points. It is further clear that the above alternatives

are not exclusive, for it is agreed by everybody that Leibniz did work along all these lines. The problem is entirely one of emphasis. It is further connected with the problem of Leibniz's attitude to various thinkers whom he studied from time to time, such as Plato or Descartes or Spinoza or Malebranche.

My object in the present paper is not to enter into direct controversy with any of the views which have been held on these subjects, but to endeavour to state what seems to me to have been Leibniz's attitude in general, in the years before he had arrived at the conception of created substance expressed in the *Discourse on Metaphysics* in 1686.

I wish to deal with two points: firstly, the relation of God to the universe, secondly, the conception of the universe as a harmony; for I believe that these points were settled for Leibniz in his pre-monadological days, that they are the framework in which the monadology was fitted, and that it was the conception of created substance expressed in 1686 which enabled him for the first time to see clearly how he could justifiably hold them. To be sure of being in the pre-monadological period, I shall for the central part of my account confine myself to the period up to 1680. What I have to say about his views in the years from 1680 to 1686 is of necessity almost entirely conjectural.

II.

There are two conceptions whose validity Leibniz never doubts, though he does devote much attention to the question of their rational justification: namely, of God as the architect of the world machine, and as the ruler of the republic of spirits. As creator, God is outside of and beyond the existing universe. For if the universe were simply identical with God, then existence would include all there is, or in other words, everything possible would exist. And as against Spinoza, Leibniz holds that this is not the case. Again, finite substances must be in some way

distinct from God, otherwise their existence would only be modal, and responsibility, and morality, would vanish. If intelligent creatures were only modes of God, God would not be the ruler of the republic.

As creator, God must choose those entities which are to exist, and he must choose from among entities which are possible independently of his act of choice. For in his choice he must (as against Descartes) choose rationally. Truths subsist in God's understanding antecedently to his will; and it is unthinkable—it breaks the principle of reason—that God should choose without a determining reason. But though God chooses with reason, it does not follow that he is necessitated in his choice. To choose is essentially to choose with reason.

Again God must choose a plan, and having chosen it must carry it out in every detail in the way he foresaw. If he chose only a general plan, and subsequently introduced modifications in detail, he would not be perfect.

The dependence of the world on God is to be seen from a consideration of the nature of its existence. The world does not exist necessarily. You cannot find a reason for its existence in the infinite series of contingent existents. There is no first cause or reason in the series of events. Nor do you approach any nearer to a cause or reason as you go back in time. Every state of the universe, whenever you take it, is as near to God as the previous states. Thus it is the existing world as a whole that is equally dependent in all its parts on God, as creature on creator. From this point of view we must say that God continually maintains the world in existence.

But while God continually maintains the world in existence, he does it according to a plan foreordained. We must definitely reject the idea of God making up his mind afresh at every moment of time (which Leibniz takes to be involved in Descartes's view), and hence we must say from the point of view of time that when

God chose the best world to exist he chose it in all its details. He must make a machine that will go of itself ; not in the sense that it has the power to maintain itself without God's general concurrence, but in the sense that it has within itself, independently of fresh determinations of God, that which determines its future states. Otherwise God would be the sole substance and the sole agent, and creatures would be only modes of God (as with Spinoza) or at the other extreme, only effects of his will (as with Descartes). All this Leibniz held as a general view of God's action, and as helping to solve the problems of fate, foreknowledge, miracles, grace. What he believed definitely about the true laws of motion in 1676-1680 we do not know ; but in the years before 1676 he believed that everything in the material world was to be explained mechanically, from laws of motion deduced from the nature of body, and that in minds, things were determined by the choice of the apparent best. The question of the relation of the two orders was held in abeyance ; he was not clear as to whether there really were two entirely distinct orders. He objected to any theory of *influx* in the relation of cause to effect, but continued to speak of mind as being determined, or acted on, by body ; and in the year or so after 1676 he thought that a solution of the problem was possibly dependent on our discovering that our concepts of mind and of body were not so distinct as Descartes thought.

The whole universe as a series in time is then (a) created by God as being the system of compossibles which contains the greatest amount of perfection or reality, (b) maintained in existence at every moment by God's general concurrence, (c) self-maintaining in the sense that the reason for any succeeding state is to be found in the preceding states, (d) a universe which contains real created substances, which really act in the sense that their succeeding state is the result of acts of choice determined by their reason and their perceptions and appetites, (e)

and yet, are foreseen in all its detail by God before he determined to create it.

All this before 1680. Note that these statements apply to the universe in general. There is no clear decision as to the way in which minds are related to body. After he had the view of created substances of which we are certain in 1686, he could say that the universe was one which involved created substances, containing in themselves the sources of their activity, evolving freely from within, independently of any further particular determinations on God's part, and independently of any mutual determinations. It was still a universe pre-established in all detail by God ; indeed it was Leibniz's view of created substance of 1686 which for the first time showed him clearly how the universe could be at once pre-established and perfect ; for the fact that each substance contained all the machinery for its own unrolling was in accordance with the power and wisdom of God ; the fact that each unrolled freely, through its own activity, enabled created substances to be real, and not mere modes of God ; while the fact that the continued existence of creatures demanded the general concourse of God showed in what sense it could be said that "in God we live and move and have our being."

The view then of the universe in its relation to God, that it was pre-established in all its detail and yet contained in it, not only matter, but also active created substances, was one which Leibniz held quite antecedently to his monadology, held as an integral part of his monadology, and would probably have continued to hold had he never been a monadologist, as implied in the rationality and goodness of the universe. If it were only pre-established, the world might be rational but would not be good. If it was to be good it would have to involve active creatures. It was in all literalness Leibniz's meditations on the problems of "fixed fate, free will, foreknowledge absolute "

which led him to this view, and set the general problem which his doctrine of created substance was to solve. It is, we may note in passing, because we find these problems so much in the Theodicy, with so many reminiscences of his earlier writings, that this book is so important for a right understanding of Leibniz.

III.

The universe is a harmony in all its parts. We are, be it remembered, considering the doctrines Leibniz held before 1680. We have already said that while Leibniz objected to the notion of influx as an attempt to clear up the causal relation, he did think that everything in the universe was causally connected, so that any change anywhere involves a change everywhere. This idea was, I think, rather a fundamental principle by which to interpret the universe than a result of his laws of motion or a result derived from observation ; and—I think—due to his conception of the universe as created and ruled by God. Leibniz always conceived the universe as a Theocracy, and he regarded God as perfect. Thus even though there was evil or imperfection in the universe (and Leibniz always held this), this did not prevent the world from being one, and in consequence a harmony. Harmony for Leibniz is unity conjoined with multiplicity, or identity in spite of multiplicity ; and the greater the multiplicity and the more thoroughgoing the unity, the greater the perfection.

This harmony receives interpretation at different dates depending on the particular views of matter and mind Leibniz happened to hold. In 1670-73, he regarded every motion (or more strictly every conatus, or element of motion) as being communicated to every other part of matter in the universe. As to minds, he decided that they are situated at a point in an organized body, and are affected through sense-impressions received through the various sense organs, being themselves indivisible and yet containing infinite variety ; thus it followed

at once that every mind receives impressions from all the motions everywhere in the universe. This gives rise to the view, definitely expressed in 1676 and not later contradicted, that every mind perceives, though confusedly, whatever happens in the whole universe.

The *Dialogue on Motion*, written in 1676 in the boat in which he crossed from England to Holland, marks a deepening of the conception of harmony. In that dialogue, he finds that contradictions arise from the supposition that space and time are composed of points and instants, and that hence particular spaces and times must be wholes which are prior and not posterior to their parts. An *actual* distance in space must be something which is covered by a real body in motion, and an *actual* time must be a duration of a real body in motion. Different distances and different times must be distinguished by variations in the *motions* which occur in them. Only so, he thinks, can we avoid the supposition that space and time are composed of points and instants. But it follows from this that, since we can in thought always divide an actual distance into infinite smaller distances, these smaller distances must be distinguishable by the variety of the motions that occur in them. Hence he concludes that to avoid the supposition that points and instants are the elements of which space and time are made, we must hold (i) that there is no portion of space or of time which cannot be divided into portions (ii) that any portion of space and of time must be distinguished from any other portion by a variety in the motion of body which takes place in it; and that hence (iii) there is no body however small in which infinite bodies cannot be distinguished by the variety of motions occurring at its different parts, and no motion however brief in which infinite motions cannot be distinguished by the variety occurring within it. In other words, in order to avoid composing space and time of points and instants it is necessary to hold that there is infinite

variety of body and of motion within every part of body however small and through any time however small.

The principle of the thoroughgoing inter-relatedness of the parts of the universe makes this intelligible : for since everything that happens affects every body, and affects it differently according to its situation, it is clear that we have an intelligible reason for this endless variety.

We have here the multiplicity and the unity of the universe brought to their highest possible pitch ; and the harmony which is this unity combined with multiplicity is of the greatest. This is all to the good, for it brings out in a new and admirable way the perfection of God. Thus the principle of harmony, when brought to its highest pitch, enables us to avoid the labyrinth of the continuum.

In the years 1677 and 1678 we find various indications of a doctrine of perspectives in explaining the harmony of minds in the universe. Leibniz had already in his letters to Thomasius, used the illustration of a town seen from various points of view to explain the relation of the secondary qualities to body ; and he uses the idea of points of view in 1677 and 1678 to show how the different worlds perceived by different minds are identical although diverse.

IV.

We thus see, in Leibniz's early years before he has any conception of the individual substance as a self-contained monad, a definite conception of the universe as a whole as (i) created by God as the most perfect of all compossibles, (ii) pre-established in all its parts so as to involve no further particular decrees on the part of God, and yet (iii) needing the general concurrence of God to maintain it in existence ; (iv) containing among other things, active substances which are creatures and nevertheless free ; (v) a complete harmony so that every part of it reflects whatever is happening everywhere ; (vi) infinitely varied, so

that there is no portion however small which does not contain variety within it.

We see also a disposition, several times expressed, to explain the identity in variety as the result of the expression of the same thing from many points of view, as a town is expressed by many perspectives.

These views, while not of themselves giving rise to the monadology, were essential if the monadology was to be arrived at. They set the general problem which the monadology is to solve. The monadology simply explicates the universe as thus conceived; we can say indeed that all the details of the monadology are determined in such a way that none of them shall conflict with the scheme of the universe as above outlined.

V.

There are various points which Leibniz tried to settle before he arrived at satisfaction in 1686. I mention only three of them.

(a) There was, as we have already seen, the problem of the nature of body as more than mere extension: bound up with the question of the nature of space. All this turned partly on the question whether motion is absolute or relative, partly on the question of adequate laws of motion, partly on the problem of the continuum, partly on the problem how we can know the existence of bodies. The introduction of the notion of force as what is conserved in motion, which leads Leibniz to think of himself as resuscitating substantial form, probably somewhere about 1679, is not sufficient to give the monadology, but finds a place in the monadology, mistily at first (1686), more clearly in the subsequent years.

(b) The problem of knowledge. That when we know, or imagine, or perceive, there is a modification of our mind, Leibniz seems always to have held. This is not itself the object we know, imagine, or perceive, but by reflexion on it we are able to represent

to ourselves the object. It appears indeed to be thought of in 1676-7 as a particular modification or determination of a general essence which is always in our mind; and this general essence appears to be the Idea properly speaking. It is important to notice that Leibniz never raises the question of how a modification of our mind should enable us to know something outside our mind. It is obvious to him that to know involves signs. A sign need not be like the thing which it enables us to know; it is enough that when we consider the properties of the sign we should be able to arrive at truth about the object. Hence the problem of knowledge for him was entirely a question of the clearness, distinctness, and adequacy of the signs by which we represent things. Now there are many truths of which we are certain: for example the proposition that A is A, that contradictory propositions cannot be true, that whatever exists is such that a reason can be given why it should be so and not otherwise, the propositions of arithmetic and geometry. The certainty of these truths depends on their ideas alone, and they would (Leibniz says) be as certain to a person who should consider them in a dream as to one who is awake. This certainty does not depend on the prior certainty of the existence of anything, not even of God. For they concern only possible existence, and their certainty is independent of all actual existence. I think Leibniz always held this, even though he thought that they could not subsist save in some actual existent, e.g., in God's understanding.

None of these truths, then, depend on the knowledge of the nature of actual existences external to our minds; and in particular they do not depend on certainty as to the existence of bodies in space. The question of the existence of such bodies in space is itself one to be settled by an analysis of our notions; and when we analyse our notions regarding the existence of bodies in space, we find that we have no satisfactory proof that bodies are substances, *i.e.*, that they exist.

But this never made Leibniz feel in danger of solipsism. For he held that the examination of the grounds of our belief in the external world was a useful method of turning attention to the imperfection of the senses as a basis of truth, and to the superiority of the method of analysis. He thought that we could be sure (i) that I who think exist, (ii) that I think many things, (iii) that God exists, (iv) that in Logic, Arithmetic, etc., there are many true propositions, (v) that there are many other minds in the universe beside God and myself. We do not know the explicit grounds on which he held (v) in the period under consideration, though in his later years he argues that it follows from the fact that I exist, and that there is no reason which can be given why I should have any prerogative for existence above other possible minds. But he did hold it in his early days; and he held that we shall discover the nature of these other minds by getting adequate ideas; and we shall get these adequate ideas by careful attentive reflexion on the imperfect notions we find in ourselves, which we gradually bring to clearness and distinctness.

Now these beliefs were not only held by Leibniz in his pre-monadological days, but were made more significant by his monadology. We can indeed say that so far is the monadology from being solipsistic, that it is rather anti-solipsistic from the start; for it is based on the definite view that an intelligence, *i.e.*, a being capable of reflecting on his notions, and bringing them to adequate ideas, can have knowledge of the realm of possibles, and of the basis of existence in God's act of choice. This is part of what Leibniz means when in his *Discourse on Metaphysics* he says that rational minds mirror God rather than the universe, while minds which lack intelligence mirror only the universe. Non-intelligent minds live as in a dream, having only ordered appearances; intelligence can go beyond the actual ordered arrangement of appearances, to a consideration of

possibilities, *i.e.*, to a knowledge of God. Monadology would only be solipsistic if the assumption were made which destroys monadology, *viz.*, the assumption that there is nothing in the intellect which has not come through the senses; and we know what Leibniz thought about this. Ideas, the real basis of the monadology, destroy solipsism. A being restricted to perceptions would for Leibniz be a mere "mirror of the universe." But he would not be able in that case to say "I": he could not be a solipsist for himself.

The point I wish to make as a result of this discussion is that it is not the fact that we cannot prove with certainty that external bodies exist, that leads Leibniz to his monadology. He does not arrive at the monad by first, confining us to our own ordered phenomena, and then trying to discover a way out. For as I have said, his discussion on this point was meant to show that knowledge depends on ideas, and not on perceptions, whether outer or inner. It is of course clear however that the discussion definitely did lead him to seek the source of mental changes elsewhere than in bodily changes, and that when he decided that minds were simple substances containing the source of all their own variety, he had only to incorporate without fundamental alteration, but with a new significance, the previous discussion.

(c) The interaction of mind and body. We know that Leibniz's first publication of his system (as distinct from his correspondence with Arnauld and Foucher in 1686) was in relation to the problem of mind and body (1695). He tells de l'Hospital (1695) that his view is simply a development of Malebranche's view, and that it is to Malebranche that he owes the foundations on this subject. And it is certainly true that his correspondence with Malebranche in 1679 is of great importance for his thought. But this correspondence does not tell us definitely what his thought was, and I am disposed to believe that he was not in 1679 very definite himself. It is however clear that he did by

1679 believe that, if we conceive thought and extension as Descartes does, then there is no possibility of seeing how they can interact; that hence he thinks there must be something more in body than extension, and perhaps more in thought than Descartes held; and that he was disposed to seek help in the denial of Descartes's idea of the quantity of motion as persisting, in the possibility of doubting the existence of body conceived as substance, in the experiences of microscopic organisms. All this, I imagine—for we have nothing more definite on the matter—made him incline to the belief that the universe was everywhere made up of organisms, each organism containing both a mind and an organized body, and each organism containing an infinite number of organisms within it: a belief foreshadowed, but not in reality actually held by him, in 1670.

Further, the clear emphasis of Malebranche on the view that all our thoughts are produced continually in us by God—that God is our light—without any influence from matter, may have helped him to decide that while every mind needs an organic body, there is no interaction between mind and body, each having its own laws of development within the universal harmony. Thus so far, the universe would be split into two; but as there is no way of relating minds to each other directly, it is clear that we should have many separate minds, each directly dependent on God, and all served by a bodily world which was constructed from the beginning to run its course independently of all minds, yet in harmony.

But it must be insisted that all this is conjectural, and that even if we were certain that it really did represent Leibniz's thought, it would still be a long way from the monadology. That each mind is directly dependent on God independently of the material world, and that the material world is directly dependent on God independently of minds; that yet the world is a harmony of minds and bodies so that what happens in minds

corresponds with what happens in bodies ; that the light set by God from the first in our minds, and the laws set by God in bodies, are such as to determine what happens without any new decrees on God's part ; that the laws of motion of bodies are more than can be derived from extension and mass and involve something akin to mind : all this Leibniz may very well have held before 1686 : and it would have been sufficiently perplexing to him. The harmony of the world would now include a special harmony between minds and bodies, and as the whole detail of the world was pre-established, this harmony, like every other in the universe, could be described as a pre-established harmony—the idea was clear in 1686, long before the phrase was actually used. But there would be still much to clear up, for it would not, so far, be clear how minds *could* be said to be substances if they were so intimately dependent on God, or *what* could be in them from the start to determine their subsequent experiences. That somehow the intellect contained all the *ideas*, we have seen, he was clear, but how, and in what way the whole series of perceptions was determined, would still, even if our conjectural account be true (purely conjectural, for we have only fragments of evidence to go on), remain to be made clear. The notion of force, too, as pointing to substance akin to mind determining the laws of motion of body, ought, we feel, to have given him cause for perplexity, in view of the lack of connexion between mind and body. Clearness and definiteness as to mind we get only in the doctrine of propositions, in which Leibniz extends to all true propositions the view that the predicate is contained in the notion of the subject, which in his earlier logical essays (e.g. of 1679) he had restricted to categorical affirmative universal propositions, and sees that this extension furnishes a definition of the nature of a complete created substance, and enables a solution to be given to the problem of how the action of a created substance is to be distinguished from the action of the Creator.

It is instructive to read the logical essays of 1679 and those of 1686, with the question in one's mind why he did not generalize the notion that the predicate is in the subject long before he did. In my view it is inconceivable that the pure logical doctrine of itself suggested the monadology. It is much more likely that with all the separate problems (some of which I have tried to indicate in this paper) in his thoughts, his own statement is literally accurate, "I was conducted insensibly to a view which surprised me."

NOTE.—The accounts of Leibniz's doctrines contained in this paper are based chiefly on his dated MSS. read in strict chronological order, and the citation of particular texts is quite inadequate. The reader who disagrees with them will do so on his own interpretation of the texts read as a whole. I have not tried to seek backstairs influence or to read his character "at its worst." That way lies darkness, at least in philosophy. I add here a few references on certain points.

Much of section II can be tested by a reading of Leibniz's comments on the series of writings relating to Spinoza, in Volume I of Gerhard's edition of the philosophical works, and in the letters to Eckhard in the same volume. The fragments in Couturat's *Frag. Inédits de Leibniz* p. 25-6 and p. 529 should be consulted.

The Dialogue on Motion, referred to in section III, is printed in full in Couturat pp. 594 ff. Its true title is *Pacidius Philalethi*. It is of great importance for an understanding of Leibniz. Besides the points actually mentioned in Section III (contained especially in pp. 615-622), there is much of interest, notably his account of mutation as not a real state of body, but as involving "transcreation," and his conjecture that real action is of something which in acting does not suffer (p. 623 f.), which makes God the sole agent: but which should be compared with the notes on Eckhard G.I 240, 242, and which it is interesting to read in connexion with the later fragment in Couturat pp. 8 ff. (in which itself there is the very interesting attempt to use a conception of *lumen* to explain action—of which I shall speak below). The note at the head of *Pacidius Philalethi* should be read in connexion with what he says to Huygens (G.M. II, p. 199).

The doctrine of perspectives is to be found in Couturat p. 10, in the comment on Spinoza's Ethics Part II Prop. 12 (G.I 150); cf. on Prop 21 Schol. For its relation to secondary qualities see To Conring G.I 197. With the whole doctrine compare his account of the principle of similarity To Galloys G.M.I 180.

For the problem of knowledge, touched on in Section V, there are his general views dating from the *Ars Combinatoria* and the Preface to Nizolius (G. IV), the letter to Foucher G.I 369 ff., the comments on Spinoza (in which he is clearly misunderstanding Spinoza, because he is reading Spinoza in the light of his own doctrine of essences), the letters to Conring, especially G.I 205, the notes on Eckhard, e.g., note 30, G.I 237, the Dialogue G.VII 190. The discussion *Quid sit idea*, G. VII 263 ff., may be compared with that in the paper on True and False Ideas, esp. G. IV 426, and in the *Discourse on Metaphysics*, G. IV 449 ff. In reference to his later thought it is interesting to connect conjecturally the note in § 28, G. IV 453, in which he quotes that God is the *lumen illuminans omnem hominem venientem in hunc mundum* (already quoted in the letter to Seckendorff, Erdmann p. 82), with the much later paper in Couturat pp. 8 ff. already mentioned in these notes, in which *lumen* is spoken of as the basis of action, as the *materia imaginum*, and as being to phenomena as extension to figure, or entelechy to derived force. This paper uses the term monad, and is to be dated accordingly. (But not necessarily "later than 1696," as people usually say about a paper that contains the term monad.) The earliest dated use of the term, so far as I know, is in the letter to de l'Hospital, 12-22 July, 1695, G.M. II, p. 294).

The material dated with in the discussion of mind and body is to be found throughout Leibniz's early writings. The correspondence with Malebranche is in G. I 330 ff.; that with de l'Hospital in G.M. II 277 ff.; the documents relative to the publication of his views in 1695, in G. IV 471 ff.

The logical essays of 1679 and of 1686 are printed by Couturat. The account of the development of his own thought in the *Système Nouveau* G. IV 477 ff., from which the last sentence in my paper is taken, like the account in the *Phoronomus*, which is given in extracts by Gerhard, *Archiv. für Gesch. d. Phil.* 1888, p. 576 ff., does not altogether clear the path of the commentator who endeavours to keep strictly to what is explicit in dated papers. But a discussion of this whole matter is beyond the scope of the present paper, and involves many documents either dated, or capable of being dated, of which I have said nothing. They include, among others, the Dialogue on Religion, Foucher de Careil Op. II 512 ff.; To Johann Friedrich, Klopp IV 440 ff. and 447 ff.; the letters to Seckendorff printed by Stein, Leibniz und Spinoza, pp. 311 ff.; the Essay on Dynamics, Foucher de Careil I 470 ff.; the letter to Hessen Rheinfels, Rommel II 18 ff.; the fragment of a letter to Tschirnhaus, quoted by Cassirer, Leibniz p. 529, printed in Bodemann Briefwechsel, p. 347: with the undated papers closely connected, in G. VII 319 ff., 323 ff., 328 ff.

*Meeting of the Aristotelian Society at 21, Gower Street, W.C.1, on
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XIII.—THE CONTACT OF MINDS.

By C. DELISLE BURNS.

I.

MIND will be taken in what follows here to mean all such facts as thinking, purposive action, etc. It is, therefore, what has been called mental process, psychic energy or percipient event. Where there is a thinking or seeing, feeling, hearing which form integral parts of thinking, there is mind. One mind will be taken to mean a particular series of such facts ; and it will be assumed that more than one such series exists, so that we may speak of many minds. The problem to be discussed is what kind of unity and diversity exists when two or more minds are in contact by co-operation or communication. Intercourse, then, is taken as a fact which, being examined, may indicate some characteristics of mind. Clearly any series of mental processes is similar, in many ways, to a life-series which is not mental. That is to say, some organisms live which do not see and feel ; and some organisms which see and feel do not think ; but no thinking exists which is not connected with or partly identical with sensation and living. The units of the life-series have contacts which may supply some evidence for the contact of minds ; but we are here concerned with mental processes only. The relations between living beings which are not or have not minds will be omitted from consideration ; but this must not be taken to imply that mind or mental process is something super-added to life in any being which has or is a mind. When any such being sees, its seeing is mental : and if " I " am aware that " you " are a mind, it is indicated not simply that you think but that you see and feel thinkingly.

Before discussing the contact of minds, however, something more must be said of the general character of all such facts as thinking, feeling, seeing, etc. All these differ from all such facts as are given in "nature" in the way in which they are given. That mental processes are, in some way, given is implied in the fact that we can discuss them; and they are believed generally to be open to view in a process called introspection. But it seems reasonable to believe that thinking, feeling, etc., are given also in an awareness somewhat closer to them than introspection. I think and I am aware of thinking, as it seems, in the very act of thinking. This sort of awareness may be called "enjoyment"; but the precise meaning of that term, as used by philosophers, should not be regarded as important for the present argument. All that is necessary is that it should be recognized to be an awareness of mental process other than introspection. Thus all mental processes are distinguished from all realities which are properly called "objects" or contemplated objects in the manner in which they are given. They have been called the "-ing" as contrasted with the "-ed" of experience, as hearing, etc., is contrasted with heard, etc. We are concerned here, then, with the relation between the "-ings" which are usually called the processes "of" different minds. But all "-ings" must, first, be considered together. They are perhaps open to introspection; but introspection, if it exists at all, is a difficult art and involves retrospection and comparison of data: and all that need be assumed here is that the "-ings" are in some way given as facts or existent realities although not "objects" in the strict sense of that term. It is generally assumed by psychologists that the facts with which they are concerned are "individual" or "personal"; and this appears to mean that the perceiving, thinking or seeing, which they analyse, is found always or at any rate at first to be "mine." Indeed Professor James Ward has gone so far as to say that the subjective or individualistic standpoint

"is not likely to be abandoned" in psychology.* It is not, however, necessarily assumed in Professor Spearman's conception of "sentience" or "lived experience",† although the absence of any analysis of the presence of one mind to another in his work may seem to imply that the old assumption is not definitely rejected. It may or may not be useful in the methodology of the psychologists to assume that sentience or perceiving is the process of "a" mind or of "my" mind; but the acceptance of this standpoint, from which to begin psychological analysis, should not be taken to imply that this is the fundamental fact in regard to mind from the point of view of metaphysics. The fundamental fact, from which we begin here, is the distinction between all mental process and all contemplated objects.

II.

All mental processes can be classified in at least two ways: they are different either in regard to the way in which they relate to objects, and thus we have the classes of mental process referred to as cognition and conation; or they are different in the way in which they are related to one another, and thus we have "my" mental processes as distinct from those of "other" minds. This second difference is our subject-matter here. The characteristics of mental process in general are to be discovered by reference to the distinction between, for example, the thinking which is my thinking and the thinking which is yours or his. Everyone assumes that such a distinction exists; and even those who speak of an Absolute mind would perhaps not deny that at some stage or in some sense it is true to say that thinking is mine and yours.

The mental processes which are mine are connected by some form of memory; and it is in memory or by "mnemic con-

* *Psychological Principles*, p. 12.

† *Nature of Intelligence*, p. 48 *seq.*

tinuants" that "my" seeing of to-day forms one series or one system with "my" seeing of yesterday. So also, if there is an "other" mind, it is a series or system of mental processes formed by an "other" memory-system. But every such process seems to point forward as well as backwards in time; and therefore each series or system is formed also by "horme" as well as by "mneme."* Thus each mind is one, as a series or system is one; and in the world of mind or among "enjoyed" realities there is "one" and "other."

There are many different kinds of unity, of which the most obvious are the unity of a heap of stones, of a single stone, of a crystal, of a cell and of an organism. The unity of a mind is different from all these, and the elements present in that unity are different from the elements of other unities. For the present argument it is unnecessary to decide whether or not the unity of a series of mental processes, which make "a" mind, may be called a self; but it may perhaps be allowed that that word be used without implying any assumptions as to the fundamental character of a self. The many different mental processes which are united in a self or which form one mind can be classified: for thinking differs from seeing and hearing and there may be mental processes which can all be named "conation."

The thinking which belongs to one mind-series is like the thinking which belongs to another series: that is to say, there are distinct instances of thinking which occur in different "mneme-horme" systems. But this classification provides only the ground for the discussion of the universal "thinking" in the particular instances of "thinking." The instances remain distinct, just as my thinking is distinct from my seeing, although both are mine. There is, however, a connexion between my thinking and your thinking, whenever intercourse or communication occurs, which

* Professor Nunn's use of these terms is here accepted.

is, as it were, the formation of another series or system of mental processes. We say that "meaning" connects us; or in action, that "purpose" connects us. The structure of mind or mental process, then, shows a "lateral" as well as a "linear" systematization. Intercourse is to my mind and your mind as memory is to the percipient events which are all "mine." A sort of unity is undoubtedly implied in intercourse; but how shall we conceive it?

That question cannot be answered unless we make clear what is involved in the knowledge that there are "other" minds; for I cannot have intercourse with you unless I am aware that you exist. Nor is it enough that many different classes of contemplated objects exist; for intercourse is by hypothesis not a relation between contemplated objects or the events or factors of "nature," and I must therefore know that you are a mind. Clearly if perceiving is fundamentally "my" perceiving, then the existence of other minds has to be discovered in a way in which it need not be discovered if perceiving is not inevitably "mine." But it seems possible that the original datum is just mental process and not necessarily, or at any rate not obviously, "my" mental process. And in any case the broad distinction between mental process and "objects" does not imply any theory as to the self and the not-self. The classification, then, of the different kinds of mental process rests upon the prior distinction of all such process from what is not mental process; and the most important realities which are not mental process are what are usually called objects. The characteristics of mental process in general have been usually studied by reference to the contrast between mind and its objects; and this may indeed always remain the source of the most significant knowledge about minds. Perceiving, knowing, feeling, conation, are various facts, which are relations between mind and its objects. The character of that relation is perhaps the chief subject of dis-

cussion between idealists and realists : but the argument here does not involve any decision in regard to this issue. What is in question here is a relation between minds, which is quite different from the relation of mind to its object ; and it is proposed here to suggest as an hypothesis that the distinction between minds or the contact of minds appears in " enjoyment " or in the awareness of mental process, without reference to contemplated objects. This hypothesis must now be explained.

III.

Two methods are possible. The older view may be expressed and refuted and the new hypothesis then put forward : but it is proposed here to put forward the new hypothesis first and afterwards to consider the older view. The new hypothesis is probably not any newer temporally than the view implied in the current phrases about the way in which we discover that other minds exist ; for indeed traces may be found in the history of philosophy to show that many early philosophers felt uncomfortable about the relation between minds as explained traditionally. But in general terms this traditional view may be regarded as dominant to-day. It implies that " other " minds are reasonably believed to exist because I compare the movements of certain objects called " bodies " and conclude that, as the body-object connected with " my " mind moves similarly to certain other objects, these other objects must have minds connected with them. That view is here rejected.

The alternative hypothesis suggested here is that within mental process (as contrasted with " nature ") a distinction appears which is the distinction between minds. No influence is necessary to show that other minds exist, for other minds are discovered in so far as my own mind is discovered. Other minds are given in the same way as my mind is given ; and, therefore, if my mind in awareness be said to be " enjoyed," other minds

are "enjoyed." Other minds are in no sense contemplated objects; nor does the belief that they exist depend upon an inference from contemplated objects or "nature." Minds, then, are in contact directly. They are not separated by an area of the non-mental or bodily world of nature. When minds are in contact in co-operation or communication, they do not pass over any bridge in order that one may reach the other. This may be what Leibniz meant; and it may be what is called "monadic" as contrasted with "atomic" contact; but the connexion of the hypothesis here suggested with other similar statements is a further question which will not be here discussed.

When I know that another mind exists, I do not know it as I know that chairs and tables or circles or numbers exist. The ways of knowing sense-data and numbers may differ; but they are more similar than any one of them is to the way of knowing minds. The same meaning is intended if we say that a chair and a circle or a number are different kinds of objects but they are more similar to one another than either of them is to a mental process. The hypothesis, then, that one mind is present to another directly requires a further statement of the way in which mental processes are given or of the kind of reality which they are. Minds or mental processes in series are given in enjoyment, whether the mind in question is mine or yours; but the distinction between minds and therefore the fact that there is "other" mind is given in a particular kind of enjoyment called "our" enjoyment or my enjoyment of "our" processes.

It should be noted that the enjoyment is not assumed to be the process enjoyed and therefore this may be an unusual use of the word: the hypothesis however does not depend upon that. The central fact to which the hypothesis refers is the fact of processes referred to as "ours" or propositions of which the subject is "we." This pronoun should be taken seriously. The hypothesis is supported first by reference to the analysis of

intercourse. When there is a pulling at a rope by me and another person, there is an experienced or enjoyed process which is distinct from the process enjoyed when I pull alone. Cooperation, then, shows a joint enjoyment; or if that word implies too much, then we may say that the mental processes in the two cases, although given in the same way, are given as distinct. There is such a thing as "my" pulling; and there is also "our" pulling. Similarly in language, as an instance of cognitive intercourse, there is "my" meaning and there is "our" meaning; and when I understand "your" meaning, then "our" meaning comes into existence. But it is implied in my understanding *what* you mean, that I am aware *that* you mean something. That is to say, I "discover" another mind; and this is the logical ground for the belief that other minds exist, namely, that "I" have direct contact with at least one "other" mind.

Further, the hypothesis is supported by the evidence that the "I," in the "I think" or "I act," is a comparatively late discovery. It seems probable that "other" minds are in awareness before "my" mind is in awareness. Of course, this does not imply that in fact intercourse exists before any mneme-horme system exists, or that the lateral precedes the linear system in mind. All that is meant is that the linear system is a later discovery. "Our" action is present in consciousness earlier than "my" action; and that element in "our" action which is later called "yours" is much more obvious at first than that which is called "mine." The advantage of the hypothesis is that it may provide some explanation of mental contact without involving any theory of the relation between mind and body, or meaning and sound in language. Clearly part of the explanation of intercourse must be an hypothesis with regard to these relations; and another part must be an hypothesis in regard to the relation of mind in general to its objects. But yet another part of the explanation of intercourse must be some hypothesis with

regard to mental contact, abstracting from the always concomitant relation of mind and body. The psychological analysis of joint enjoyment or the awareness of "our" mental processes should be carried very much further than is possible here; but it is implied in the hypothesis suggested that "our" mental processes are irreducible metaphysically to terms of "mine" and "yours."

It is better not to introduce at this stage the further question with regard to the meaning of the words "I" and "you," which would involve a discussion of the nature of "self"; and it has been assumed that the problem of the knowledge that "other minds" exist can be solved without going further than the distinction between any mental process which is different from any other in being connected with one body and not another. This difference, however, is a difference within the same time or in simultaneous events: and the event which is called intercourse may perhaps be said to "cover" or include "my" thinking of a table and "your" thinking of the same table at the same time. Thus meaning is not transferred from mind to mind in intercourse: it is the existence of a reality in two or more minds or the simultaneous covering of the same object by two or more minds. The mere number of the minds is irrelevant. The point is that there is a specific relation between them: and in this systematic relatedness of "meaning" and "purpose" is the mental as contrasted with the natural world.

IV.

It is to be feared that this hypothesis may be grasped at by those who have inherited from a simple form of theology a prejudice against the material. It may be believed that the hypothesis implies some special nobility or independence of mind; and there is perhaps a danger that someone will use the words "spirit" or "spiritual" of the minds and their contacts which

are here being considered. The word "spirit" is so blunted and bent by unphilosophical uses that it will no longer cut philosophical subject-matter; and even the word "mind" has been ill used. Therefore, adopting the practice of Professor Whitehead, a few words may be added "to prevent the reader from bolting up side-tracks in pursuit of misunderstandings."

Mind is not "what makes the body go": it is the fact that body does "go" in a certain way, as gravitation is not what makes the stone fall but is the fact that the stone does fall in a certain way. As all mental process is in some sense bodily, so all mental contacts are bodily. The relation of mind to body is the same as the relation of mental contact to bodily contact. The contacts in which other minds are discovered are such facts as co-operation in pulling at the same rope or building the same house or as communication in language; and pulling, building and language are all bodily. The word "body" is, of course, not a philosophical term; and we commonly regard as elements of the same body some non-living as well as some living "matter." But the whole area of reality which is referred to in common language as "a" body is, of course, more than we refer to when we say that all mental contact is bodily. There are obviously some contacts which are called bodily, which are in no sense mental. The relations of weight between bodies or their spatial relations are not necessarily mental. But there is no reason to suppose that there are any mental facts which are not bodily, in the sense that wherever there is such a mental fact there is also a change which is its "record" in the relations of "matter." It is not necessary, for the purpose of the hypothesis here suggested, to assume any particular view of the relation of mental process to body or of mind to matter; but on the other hand, the hypothesis must not be taken to imply that there is no such relation.

Again, in distinguishing all mental processes from contemplated objects it is not implied that mind has any of those peculiar characteristics which seem to be referred to in the traditional use of the phrases "self-consciousness" or "self-reflection." Certainly this or that actual process of seeing or thinking is not aware of "itself." Nor is it here implied that there is in mind, any more than among objects, any *identity* of unity and difference or of being known and existing. The "law of contradiction" is assumed here to be just as valid in regard to one mind and the "other" as it is for any one penny which is not another. But enough perhaps has been said: the other side-tracks to misunderstandings must be left open to the risk that they may be used either by common sense or by idealism.

V.

With regard to the older hypothesis, that we conclude that other minds exist because of bodily movements, two statements must be made: one is that it is very unlikely as a description of psychological fact, and the other is that it implies very questionable logic. First, very early in life the knowledge that other minds exist seems to be implied in action. Communication may even precede birth. But it is certain that a very young child has no definite perception of its own body or of the relation of that body to other bodies. Therefore it is unlikely that bodily evidence is in fact used as the ground for the belief that other minds exist. Again, my perception of my body, at any stage of mental development, is very different from my perception of your body. The pain I feel at "my" wound is not similar to any perception I ever have of "your" wound. If therefore I were to rely upon perception of my body, it would be much more likely that I should conclude that *no* other mind existed.

Secondly, the logic of the supposed inference in the old hypothesis has been called by Lossky "analogy."* He says "it is a poor argument"; and with extreme politeness, it may possibly be called the method of agreement. The inference has for its premisses (1) likeness between my body and other bodies and (2) the fact that my body is connected with certain facts of quite a unique character called mental processes. The conclusion is that there are facts of the same character connected with "other" bodies. Now if mental processes are essentially and fundamentally "mine," it would be a contradiction in terms to say that there are any "other" minds: but the inference here need not assume that they are "mine." The inference, however, does assume a fundamental distinction between mental process and contemplated bodily movement. This seems a safer method of stating the assumption than the method used by Lossky, which uses the words self and not-self; for it is an additional question whether the mental processes are the self or are given to the self. The contemplated bodily movements, however, are seen to be similar only after a very intricate series of comparisons. The difference, in my contemplation or among my objects, between my body and yours is very great. The amount of the agreement, then, hardly seems to warrant so tremendous a conclusion as that "enjoyment" occurs which is not my enjoyment, or that other minds exist, unless of course mind connected with "my" body is not in fact obviously "my" mind. But if the whole argument assumes that there may be mind which is not connected with my body, then it assumes precisely what is to be proved. The logic implied in the old hypothesis, then, appears to be questionable. A certain confusion, no doubt, arises from the neglect to distinguish the fact "perceiving exists" from the fact "I perceive": that is to say, the older hypothesis does not appear to rest at all upon

* *Intuitive Basis of Knowledge*, p. 40 seq.

"I perceive" but upon "perceiving exists." It is the explanation of the discovery of "other" that is defective; and here again there may be a confusion between "an other mind exists" and "this is an other mind."

The traditional hypothesis that we discover other minds from the movements of bodies is not mistaken, if it be taken *only* as an explanation of the way in which we learn *where* other minds are to be expected to exist. Thus bodily movements and, at a very much later stage, the comparison with "my" body, may indicate *where* other minds are and even *what* they are doing even if such movements never have been and never could logically be the ground for believing *that* other minds exist. In mental process, as enjoyed, other minds are given; but we know that there are probably some other minds in existence with which we have not in fact co-operated or communicated; and the movements of certain contemplated objects may be a very good indication where we shall find them. But even in this case "the proof of the pudding is in the eating"; and the theory that you will find a mind connected with a certain body may in some cases turn out to be false, just as the theory that certain sounds are language may turn out to be false. The method of agreement is in fact used as an indication of the "area" of contemplated nature which is specially connected with mind; but it is not used as the means of discovering whether or not "other" minds exist. Indeed it assumes that there are "other" minds; and this assumption rests upon the direct contact of minds in the awareness of mental process.

VI.

The characteristics of mind as revealed in the contact of minds will probably indicate some important facts with regard to what are called "social unities." On the hypothesis suggested here all association, society or community exists in enjoyment or

the awareness of mental process ; and it will be impossible to have any psychology which is not social psychology. It would also follow that the contact of minds should be discussed in psychology at a much earlier stage and much more continuously than is the custom at present. But these are obvious results. No less important, if somewhat less obvious, is the result upon the theory of the knowledge of different kinds of contemplated realities. Differences in the different kinds of contact between minds may possibly provide part of the explanation of the difference in the knowledge of (a) values, (b) "scientific" objects, (c) sense-data and (d) the logical nexus. Both the historical account of the development of knowledge of different kinds of reality may be questioned and the logical explanation of the relation of one kind of knowledge to the other. But these are further questions, the answers to which can only be given after much investigation : and in this investigation more precision will, no doubt, be given to the hypothesis here suggested.

*Meeting of the Aristotelian Society at 21, Gower Street, W.C.1.
on June 4th, 1923, at 8 p.m.*

XIV.—WHAT DOES DR. WHITEHEAD MEAN BY “EVENT”?

By W. LESLIE MACKENZIE.

1. *Introduction.*—Last year, at the Manchester Symposium, I said to Professor Wildon Carr: “The question I should like to ask is—What does Dr. Whitehead mean by an ‘event’?” Professor Carr, with the prompt interest in the future that distinguishes his management of ceremonies, promptly asked, “Will you open a Symposium on that subject at our next meeting?” This was somewhat sudden, and I temporized. I was keenly conscious of my own ignorance, but I was not confident of my own capacity to ask the question. But when Professor Carr, still eager and obviously anticipating that somebody could make use of the question as the beginning of a discussion, asked again—“Will you take it up in a paper at the Aristotelian?” the question was on the lines of sound method in hypnotic suggestion; for it flattered my ignorance by implying that I could put the question in a way to elicit an answer, and, in the end, I agreed. This is how I find myself putting in public a question that I have put to myself a hundred times in private without finding an entirely satisfactory answer. Indeed, I have put the question to one or two others who were much more competent students of Dr. Whitehead than I am; but their answer at the time was not very intelligible to me, and I still find myself putting the question and finding some echoes but no definitive answer. If, therefore, I put the question once more formally, I know that Dr. Whitehead will excuse my doing so, and that he will endeavour, as he did at the Oxford Symposium, to bring himself to the level of a non-mathematical inquirer, who finds even the non-mathematical portions of *The Enquiry* and *The Concept* difficult, and

the mathematical portions hopeless. Curiously, although I was assured by Dr. Whitehead himself at Oxford that *The Concept* was easier for the non-mathematical, I found that at least some parts of *The Enquiry* were less difficult to follow. But, from a study of some reviews of Dr. Whitehead's books, I gather that even skilled people find them difficult to understand, and I, therefore, feel less ashamed to appear now as a pure questioner. But I wish Dr. Whitehead could persuade himself to make more allowance for the elementary state of some of the minds that are fascinated by his ideas and feel obliged to study them. He might, for instance, have written his last three books in diluted longhand instead of in inspissated shorthand. He might perhaps also persuade himself to allow for the lower velocity of cerebral metabolism in the frozen north. These trifling personal points I give merely to indicate that the question I put is not put idly, but from a definite wish to find the key to three distinguished books by a distinguished thinker.

2. *Dr. Whitehead's earlier use of "Event."*—What first puzzled me about the term "event," as used by Dr. Whitehead, was that a word, ordinarily used exclusively to express time, should now be used to cover also space, and that an event was the situation of an object. When I read that the *continuum* necessary to ground a philosophy of nature must be a *continuum* of events and that the ether, till then familiar to us as the necessary medium of electro-magnetic waves, must now be thought of as an ether of events, I did indeed enjoy a certain emotional satisfaction when the common words suddenly became a mystery, but I began to give up all hope of understanding. It is, of course, mere foolishness to expect that the technical terms of philosophy should be capable of practical application to the system of "broadcasting through the ether"; but the familiarity with broadcasting is a natural psychological obstacle to the under-

standing of the higher abstractions necessary for a system of metaphysics. (With all deference, it is, I think, a system of metaphysics that Dr. Whitehead puts before us.)

When I was sufficiently mystified to stop reading the books in the sure conclusion that they were finally beyond me, I remembered Dr. Whitehead's contribution to the Society in 1916 on "Space, Time, and Relativity." I was curious to find at what point in his thinking the word "event" expanded its content. I conclude that it must have been sometime between the writing of that article and the elaboration of *The Enquiry* (i.e., between the years of 1916 and 1919), and, incidentally, I found that on the margin I had written (probably in 1916) in reference to one paragraph of that article—"Not clear what 'event' means as against 'thing.'" It was probably this reading that started me on the fatal quest, and, on looking at the paragraph, I now wonder why I raised the question at *that* point; for the paragraph seems simple enough—at least relatively. Obviously, however, the new meaning was just budding. Dr. Whitehead writes: "In this connection I should like to draw attention to the analogy between time and space. In analysing our experience we distinguish events and we also distinguish things whose changing relations form the events. If I had time it would be interesting to consider more closely these concepts of events and of things. It must suffice now to point out that things have certain relations to each other which we consider as relations between the space extensions of the things; for example, one space can contain the other, or exclude it, or overlap it. A point in space is nothing else than a certain set of relations between spatial extensions. Analogously, there are certain relations between events which we express by saying that they are relations between the temporal durations of these events, that is, between the temporal extensions of the events. . . . The properties of the extension of an event in time are largely analogous to the extension of an object in space.

Spatial extensions are expressed by relations between objects, temporal extensions by relations between events. The point in time is a set of relations between temporal extensions." (*Proc. Arist. Soc.*, Vol. XVI, p. 107.)

Here, also, Dr. Whitehead assures us that it needs little reflection "to convince us that a point in time is no direct deliverance of experience. We live in durations and not in points. We live in space-extensions and not in space-points. But what community, beyond the mere name, is there between extension in time and extension in space? In view of the intimate connection between time and space revealed by the modern theory of relativity, this question has taken on a new importance." (*Ibid.*, p. 108.) And then Dr. Whitehead says that he has "not thought out an answer to this question." But he suggests—and the phraseology is important even for the later expositions—that "time and space embody those relations between objects on which depends our judgment of their externality to ourselves. Namely, extension in space and extension in time both embody and perhaps necessitate a judgment of externality. This suggestion is very vague, and I must leave it in this crude form." (*Ibid.*, p. 108.)

Here let it be noted that both time and space embody relations "between objects." In the developed doctrine, space-time is stated to be a relation not between objects, but between events. We are not yet invited to use space-time as a unity and we are not, at this point, assured that to use time by itself or space by itself is merely to be guilty of useless abstraction. It may very well be that our judgment of externality to ourselves (here "ourselves" is undefined) is embodied in "those relations between objects"; indeed, the statement is almost an identical proposition; but it would be very interesting to know what led Dr. Whitehead to discard this method of statement and to make time no longer a relation between objects (say, in succession) but a relation between

events considered as the "situation of objects." Obviously, a change in phraseology was necessary; for the difference between the paragraphs quoted from the 1916 paper and the substance of the expositions in *The Enquiry* and *The Concept* is enormous, but the later elaborations would, I think, become more intelligible if the links between the 1916 expression and the present expressions were made explicit. For my part, I have doubts whether "event" in the later sense is better for his purpose than "event" in the earlier sense. But this is not relevant; for what I am anxious to hear about is why Dr. Whitehead passed away from the one expression to the other. If he needed the term "event" as a high enough abstraction to secure a *continuum* in nature, is it because he concluded that the relative *continuum* implied in the statement that time, like space, is a relation between objects, does not express adequately "the uniformity of texture" necessary for the concept of nature? If, as we may assume, science is entitled to make any assumption that will "work," does "time" considered as a relation between objects no longer work even if it be an abstraction?

In a paper on the "Organisation of Thought," read in the session 1916-17, Dr. Whitehead continues to use the word in the ordinary sense, but perhaps with a suggestion of the later fulness of meaning. He states that the task of science is "the discovery of the relations which exist within that flux of perceptions, sensations and emotions which forms our experience of life. The panorama yielded by sight, sound, taste, smell, touch and by more inchoate sensible feelings is the sole field of activity. It is in this way that science is the thought organization of experience. The most obvious aspect of this field of actual experience is its disorderly character. It is for each person a *continuum*, fragmentary, and with elements not clearly differentiated. . . . I insist on the radically untidy, ill-adjusted character of the fields of actual experience from which science starts. To grasp this

fundamental truth is the first step in wisdom, when constructing a philosophy of science. This fact is concealed by the influence of language, moulded by science, which foists on us exact concepts as though they represented the immediate deliverances of experience. The result is that we imagine that we have immediate experience of a world of perfectly defined objects implicated in perfectly defined events which, as known to us by the direct deliverance of our senses, happen at exact instants of time, in a space formed by exact points, without parts and without magnitude: the neat, trim, tidy, exact world which is the goal of scientific thought." (*Proc. Arist. Soc.*, Vol. XVII, p. 61.) Here, it is obvious, we have materials for dissolution and improvement by criticism. Dr. Whitehead adds: "My contention is that this world is a world of ideas, and that its internal relations are relations between abstract concepts, and that the elucidation of the precise connexion between this world and the feelings of actual experience is the fundamental question of scientific philosophy. The question which I am inviting you to consider is this: How does exact thought apply to the fragmentary, vague *continua* of experience?" (*Ibid.*, p. 62.)

I am not here concerned with anything but the meaning of the word "event," and I seem to trace in this paper an increased specialization in the use of the word. Perhaps, however, it is well to draw attention to the statement that "this world is a world of ideas" if only as a comment on a much criticized deliverance, namely—"I will also express this self-containedness of nature by saying that nature is closed to mind." (*Concept*, p. 4.) In the light of the above statement from the "Organisation of Thought," a good deal of the criticism spent on the phrase "closed to mind" seems to me of doubtful relevance.

3. *Dr. Whitehead's later use of the term "Event."*—By the date of *The Enquiry* (1919), the term "event" almost dwarfs every other in importance. It has taken on a richer meaning.

It runs like a thread of gold through the whole volume and among the "data of science" it gets a special chapter to itself. We become familiar with the "event-particle." Obviously we have now passed to a new analysis of the perceptual world. It would be tedious to track out every shade of meaning that the term as used in *The Enquiry* conveys, and I select only one or two examples. We have "event" placed in contrast to the older concepts and we are told that "the fundamental assumption to be elaborated in the course of this enquiry is that the ultimate facts of nature in terms of which all physical and biological explanation must be expressed, are events connected by their spatio-temporal relations, and that these relations are in the main reducible to the property of events that they can contain (or extend over) other events which are parts of them. In other words, in the place of emphasizing space and time in their capacity of disconnecting, we shall build up an account of their complex essences as derivative from the ultimate ways in which those things, ultimate in science, are interconnected. In this way the data of science, those concepts in terms of which all scientific explanation must be expressed, will be more clearly apprehended." (*Enq.*, p. 4.) And again we are told: "Thus primarily we must not conceive of events as in a given Time, a given Space, and consisting of changes in given persistent material. Time, Space and Material are adjuncts of events. On the old theory of relativity, Time and Space are relations between materials; on our theory they are relations between events." (*Enq.*, p. 26.)

Are we to take it that the old way of the 1916 paper must now be discarded? There we are told that Space was a relation between objects and Time a relation between events. Is this to be regarded as belonging to the "old" analysis or the "new"?

In the passages just quoted there is no precise definition of "event"; but the whole *Enquiry* may be regarded as really the definition. How radically our way of talking about the perceptual world must be altered, we gather from the following:

"Thus perception involves a percipient object, a percipient event, the complete event which is all nature simultaneous with the percipient event and the particular events which are perceived as parts of the complete event. . . . The point here to be emphasized is that natural knowledge is a knowledge from within nature, a knowledge 'here within nature' and 'now within nature,' and is an awareness of the natural relations of one element in nature (namely, the percipient event) to the rest of nature. Also what is known is not barely the things but the relations of things, and not the relations in the abstract, but specifically those things as related." (*Ibid.*, p. 13.)

Here, the term "event" is a full-fledged concept intended to express a point of view entirely different from the older physical concepts. We can no longer look on "objects" in the sense of the 1916 paper. "Objects can be looked on as qualities of events, and events as relations between objects, or—more usefully—we can drop the metaphysical and difficult notion of inherent qualities and consider the elements of different types as bearing to each other relations." (*Ibid.*, p. 60.) Formerly, we were told that the judgment of the externality of nature was embodied by Space and Time. Now we are told: "Events are the relata of the fundamental homogeneous relation of 'extension.' Every event extends over other events which are parts of itself and every event is extended over by other events of which it is part. The externality of nature is the outcome of this relation of extension. Two events are mutually external, or are 'separate,' if there is no event which forms part of both. Time and Space both spring from the relation of extension. . . . It follows that time and space express relations between events. Other natural elements which are not events are only in time and space derivatively, namely, by reason of their relations to events. Great confusion has been caused to the philosophy of science by this neglect of the derivative nature of the spatial and temporal relations of objects of various types." (*Ibid.*, p. 61.)

4. *The need for a new term.*—I have tried to follow the sequence of Dr. Whitehead's thinking and to discover at what point he finds it necessary to use the word "event." It has to do a great deal in his theory. It is intended to cover the fact that, on whatever theory we finally decide as to the nature of the physical world, that world cannot now be described or even discussed except abstractly if we confine ourselves to terms of space alone; for space and time have a common root, and, if we speak in terms of space alone, we can properly do so only in one of two ways: either we must use space as meaning space-time or simply as a second grade of abstraction. In either case it omits the essential point that the physical world is to be taken in terms of space and time in unity. Obviously, some term is wanted to symbolize this fact, and I gather that "event" is the term Dr. Whitehead prefers.

At first sight, the word seems to over-stress the time element. The fact of a happening is thought of first in terms of time and not in terms of space. But it is something perceptible that happens, and if it took no time to happen, it would not be perceptible; for it would be nothing at all. Time, therefore, is of the essence of every happening. But equally there is no doubt that what happens physically happens in a space, it happens somewhere, and every physical happening must be thought of as also in space. Whether explicitly so understood or not, every event in the physical world is, therefore, a thing to be thought of as involving both time and space. And perhaps event is as good a term as any other, although I find it difficult to keep the main elements of meaning close enough to cover what is meant.

If, therefore, we are satisfied that, whether we endeavour to find an idealistic or a realistic formula for "nature" or the physical world (I count these terms here as equivalent), we must first clear our minds as to what it is that has to be expressed and next as to whether our terms are adequate to its use. Fortunately, I am not forced by my question to enter on this problem in the

broad sense, but only to ask what a great physicist means by the term he uses and finds it necessary to use in order to fit the concepts of physics for incorporation or, perhaps I should say for relevant valuation, in philosophy. He wishes to explain to us the only "nature" that philosophy needs or can properly take account of. He wants to clear it of contradictions, or unnecessary fictions, of tumbled up and entangled irrelevances of abstraction and to exhibit it as a clean-built and stable reality fit to "be thought of" when it *has* to be thought of.

5. *First Impression of the New Term.*—My first impression of the new term was that it had "evacuated" the material world and had reduced everything to time. Obviously, this was nonsense. But I had difficulty in keeping steady the double-faced use of "extension," which applies equally to space and to time. I lost myself repeatedly when I tried to understand how an event can be "a situation of an object" and I could not decide whether the situation was a space situation, or a time situation, or a space-time situation. I cannot yet understand how "an object," which is to be regarded as "permanent in the flux of events," can be a "quality" of an event. In the 1916 paper, "we also distinguish things whose changing relations form the events" (p. 107). Now the relationship seems to be reversed; events are primary, things are qualities of events. It would, I think, make for clearness if Dr. Whitehead could make explicit the relation between this proposition of the 1916 paper and the propositions I have quoted from *The Enquiry*. I am trying neither to controvert nor to criticize, but simply to understand.

With the details of the analysis into scientific objects, &c., I am not here concerned; but it might help towards a definition of the term if we could have some further justification of Dr. Whitehead's application of the concept event to the analysis

of a chair. "Thus the reasons for denying temporal parts to an object are also reasons for denying to it spatial parts. Again it is true that the leg of a chair occupies part of the space which is occupied by the chair. But in appealing to space we are appealing to relations between events. What we are saying is, that the situation of the leg of the chair is part of the situation of the chair. This fact only makes the leg to be part of the chair in a mediate derivative sense, by way of their relations to their situations. But the leg is one object with a recognizable permanence of association, and the chair is another, with recognizable permanence of association distinct from that of the leg, and their situation in all circumstances have certain definite relations to each other expressible in temporal and spatial terms." (*Enq.*, p. 92.) It appears, therefore, that objects do not occupy space. Or is the description I have quoted only another way of expressing the view that an object must always be thought of as both in space and time? Does it follow, as Miss May Sinclair suggests, that "the unity of the object disappears, for there will be as many objects as there are parts of the situation. It disappears in the multitude of its parts and at the same time it is said to have no parts. It is not even a self-consistent object. To be sure what you lose on the objects you gain on the events." (*The New Idealism*, p. 98.) Again she asks: "And how can an object not in space and time have any real community, even derivatively, with events which are in space and time? How can events extend beyond their time and space to rope in these essentially spaceless and timeless entities?" (*Ib.*, p. 99.)

These points are not relevant to my question except to the extent that comments on them might enable us the better to understand the meaning of the term "event." Can it be justifiably held that Dr. Whitehead imports into the term "event" what he formerly included in and now excludes from the term "object"?

7. *The Concept of Nature*.—These quotations are intended to help towards the definite meaning of a word; but they tend to land us in the heart of the controversy between the new realism and the new idealism. Let us open for a moment *The Concept of Nature*. There we read:—

“Nature is nothing else than the deliverance of sense-awareness. We have no principles whatever to tell us what could stimulate mind towards sense-awareness. Our sole task is to exhibit in one system the characters and inter-relations of all that is observed. Our attitude towards nature is purely ‘behaviouristic,’ so far as concerns the formulation of physical concepts” (p. 185).

“Space and time are each partial expressions of one fundamental relation between events which is neither spatial nor temporal. This relation I call ‘extension.’ The relation of ‘extending over’ is the relation of ‘including,’ either in a spatial or in a temporal sense, or in both” (p. 185).

“Again I will make a further simplification, and confine attention to the natural sciences, that is, to the sciences whose subject-matter is nature. By postulating a common subject-matter for this group of sciences, a unifying philosophy of natural science has been thereby presupposed” (p. 2).

This is an important orientation.

“Nature is that which we observe in perception through the senses” (p. 3).

“But sense-perception has in it an element which is not thought. . . . The fact of sense-perception has a factor which is not thought. I call this factor sense-awareness” (p. 3).

“Nature as disclosed in sense-perception is self-contained as against sense-awareness, in addition to being self-contained as against thought” (p. 4).

“Nature is closed to mind” (p. 4).

“But the something perceived is perceived as an entity which is the terminus of sense-awareness, something which for thought is beyond the fact of that sense-awareness” (p. 4).

This last seems to imply that the sense-datum in sense-awareness (as an element in sense-perception) is a basis for inferring a “nature” beyond the sense-awareness, or rather that thought and sense-awareness are somehow so related that, while thought can regard the nature revealed in sense-awareness as the terminus of that awareness, it can at the same time see in sense-perception something “beyond the fact of that sense-awareness.” (p. 4).

"In sense-perception nature is disclosed as a complex of entities whose mutual relations are expressible in thought without reference to mind, that is, without reference either to sense-awareness or to thought" (p. 5).

The mutual relations of the entities are expressible in thought without any analysis of the process of thought involved in sense-perception of those entities. In other words, perception is presupposed and the fact as revealed in sense-perception can be analysed as if it had nothing to do with perception in any form. Incidentally, it is to be inferred that "mind" includes (a) thought, (b) sense-awareness.

"Sense-awareness is a relation of mind to nature" (p. 67). (Considered as a "procedure of mind.")

"Percipience in itself is taken for granted" (p. 28).

"We leave to metaphysics the synthesis of the knower and the known" (p. 28).

The philosophy of science "is the philosophy of the thing perceived" (p. 28).

"And it should not be confused with the metaphysics of reality of which the scope embraces both perceiver and perceived" (p. 28).

"No perplexity concerning the object of knowledge can be solved by saying that there is a mind knowing it" (p. 28).

"What we ask from the philosophy of science is some account of the coherence of things perceptively known" (p. 29).

"That problem is to discuss the relations *inter se* of things known, abstracted from the bare fact that they are known" (p. 30).

"Natural philosophy should never ask: What is in the mind and what is in nature" (p. 30).

"Time is known to me as an abstraction from the passage of events" (p. 34).

"In other words, science is not discussing the causes of knowledge, but the coherence of knowledge. The understanding which is sought by science is an understanding of relations within nature" (p. 41).

These quotations contain much material for discussion. In particular, the suggestion is made that Dr. Whitehead is here presenting a view of nature that is, in some ultimate sense, "closed to mind," as if that meant that it was not a perceptible world at all. I do not so interpret the propositions I have quoted. They seem to me in all essentials compatible equally with a form of realism or a form of idealism. I am inclined to think that they would fit better into an idealistic philosophy than an alleged realistic philosophy. But I leave that to others.

I give the quotations, because they indicate some reasons for departing from traditional terms.

8. *Nature as event*.—The propositions about “event” in *The Concept* are numerous, but some of them may be quoted as containing more specificity of definition.

“The immediate fact for awareness is the whole occurrence of nature. It is nature as an event present for sense awareness, and essentially passing. There is no holding nature still and looking at it. We cannot re-double our efforts to improve our knowledge of the terminus of our present sense-awareness; it is our subsequent opportunity in subsequent sense-awareness which gains the benefit of our good resolution. Thus the ultimate fact for sense-awareness is an event. This whole event is discriminated by us into partial events. We are aware of an event which is our bodily life, of an event which is the course of nature within this room, and of a vaguely perceived aggregate of other partial events. This is the discrimination of sense-awareness of facts into parts” (pp. 14–15).

But there are other “factors in nature which are not events. For example, sky-blue is seen as situated in a certain event” (p. 15). Here my mind tends to jib, and I should be grateful for some more extended exposition. For we are told elsewhere that “space and time are each partial expressions of one fundamental relation between events which is neither spatial nor temporal. This relation I call extension” (p. 185). Consequently, if the “sky-blue is seen as situated in an event” and, if “one fundamental relation between events” is neither spatial nor temporal, what precise meaning are we to give to (a) “situated,” (b) “extension” in the special sense? The discrimination of “object” and “event” would not suffer by further exposition.

9. *Apparent break with 1916 views*.—I apologize for the large number of quotations; but I am anxious to exhibit as far as I can the meaning of the term “event” in Dr. Whitehead’s own

words. "My own view is a belief in the relational theory both of space and of time, and of disbelief in the current form of the relational theory of space which exhibits bits of matter as the relata for spatial relations. The true relata are events. The distinction which I have just pointed out between space and time in their connexion with matter makes it evident that any assimilation of time and space cannot proceed along the traditional line of taking matter as a fundamental element in space-formation" (p. 24).

This seems to be a very definite break with the doctrine expressed in "Space, Time and Relativity" (1916), and I should like to hear from Dr. Whitehead whether the reason for the break is that the only way to evade the antimonies involved in "points" and "instants" is to pass to a higher level of abstraction on the lines of his statements in "Space, Time and Relativity" (1916)? Thus:—

"This uniformity (of the texture of experience) does not belong to the immediate relations of the crude data of experience, but is the result of substituting for them more refined logical entities, such as relations between relations, or classes of relations, or classes of classes of relations. By this means it can be demonstrated—I think—that the uniformity which must be ascribed to experience is of a much more abstract attenuated character than is usually allowed. This process of lifting the uniform time and space of the physical world into the status of logical abstractions has also the advantage of recognizing another fact, namely, the extremely fragmentary nature of all direct individual experience. . . . It is not true that we are directly aware of a smooth running world, which in our speculations we are to conceive as given. In my view the creation of the world is the first unconscious act of speculative thought; and the first task of a self-conscious philosophy is to explain how it has been done. There are roughly two rival explanations. One is to assert the world as a postulate. The other way is to obtain it as a deduction, not a deduction through a chain of reasoning, but a deduction through a chain of definitions which, in fact, lifts thought on to a more abstract level in which the logical ideas are more complex, and their relations are more universal. In this way the broken limited experiences sustain that connected infinite world in which in our thoughts we live" (pp. 122–123).

Are we to take it that the aim here formulated is what we now find worked out in more or less detail in *The Enquiry* and *The Concept*? And if this be so, how are we to class the resulting "philosophy"? Is it, as the last quotation suggests, an

"idealism," or is it, as some of the phrases in *The Concept* suggest, a "realism"? And does it seriously matter which we call it? Lord Haldane suggests that the world of perception constituted in *The Concept* is really a hypostatization of "the method, so valuable for physics, of treating nature as self-contained, and so closed to mind, into a principle of absolute and not merely relative application." (*Reign of Relativity*, p. 115.) I can find very little that could not be expressed in the form of a coherent (if there be a coherent) "idealism"; but I leave that discussion to Lord Haldane. But I *should* like to learn from Dr. Whitehead whether he himself regards his world of perception as within the "subject-object" relation and, in that sense, "objective," or does he look on it as the old Scottish realists did, namely, as a dissociated object "up against" mind in some way not Berkeleyan? (We must remember that Reid was primarily answering Berkeley.) In either case, does he regard his "percipient event" as "in nature," or as giving some special character to nature, or as in any way "other than" nature? And if this percipient event is part of nature, how is it *known* to be there? In the end, are we not bound to ask this question—How is it known? Otherwise, who, or what, is presenting us with the world "disclosed in perception" and to whom or what is it "disclosed"? If we disregard "mind," or "consciousness," or "subject," do we not reimport this "suppressed correlative" under the name of "percipient event"?

10. *Conclusion*.—I am fully conscious of the somewhat jumbled character of this paper and of the fact that I have quoted materials that bristle with possible discussions other than the meaning of "event"; but the importance of the term comes really from the importance of the other problems and, if we can understand "event," we are helped to an understanding of a fresh position in philosophy. However crudely the question is here put, the learners among us are bound to put it: What *does* Dr. Whitehead mean by "event"?

*Meeting of the Aristotelian Society at 21, Gower Street, W.C. 1,
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XV.—THE CATEGORY OF PURPOSE IN SOCIAL SCIENCE.

By MORRIS GINSBERG.

THE social sciences all more or less explicitly use the notion of purpose. Some, as for example, Economics and Law, are based on certain assumptions as to the nature of human motives and are directly concerned with consciously purposive behaviour. Others, for example, Anthropology and Ethnology, frequently employ teleological modes of explanation in a manner more familiar in the biological sciences. Thus customs and institutions generally are discussed from the point of view of their survival value (or other social function) to the groups or peoples among whom they spring up. Groups are said to persist as wholes, to exhibit plasticity and adaptability and other features of the organic world. In the wider sciences of Sociology and Politics we speak of a social purpose and a social good, and the analogy between social wholes and individual persons or organisms is frequently debated. I propose here to inquire how far and in what sense social wholes are purposive, and into the relation between the purposive and the organic, as these terms are used when they are applied to societies.

(a) The idea of purpose, in ordinary usage, appears to rest on our experience of the higher forms of voluntary activity. It implies (1) an idea or conception of the present state of affairs and in contrast therewith an idea or representation of a state of affairs as yet non-existent, (2) the formation of a plan and the selection of the means or instruments necessary to bring about the desired change, (3) conative-affective elements issuing finally in the act of will proper whereby the plan is carried into execution. Purposive activity is accordingly most naturally interpreted as consisting in the realization of a preconceived plan. Very little reflection,

however, is needed to show that this is an inadequate account of even the higher forms of purposive activity, where the notion of a plan is most prominent.

(i) This view exaggerates the extent to which conscious factors are operative in voluntary activity. A voluntary act seems to be the expression of the deep-seated and massive impulses of our nature and these exert an influence which is often not at all or only dimly realized by the agent. Herein perhaps is the reason why our actions exhibit an immanent purposiveness which often goes beyond conscious choice and deliberate control. (ii) We speak of artistic and intellectual work as purposive, but in them the purpose grows, changes and develops with the execution of the work. Poetic or musical inspiration can hardly be described as a progressive and orderly adaptation of means to ends. Process and result cannot here be separated. The whole seems to be the expression of a more or less unconscious urge. The whole determines the parts, but that whole is not consciously realized at the outset. This is true even of more definitely intellectual work. (iii) Even in practical activity, the end we set ourselves changes as we proceed to realize it. New circumstances arise, the agent himself alters in nature as he proceeds, and thus results are often achieved which were never foreseen or intended. It follows from this "heterogony of ends," as Wundt has called it, that in a sense the end is determined by the means, just as the means are determined by the end. The true nature of the process is not realized until the end is achieved, and the end is only seen in the process as actually realized. (iv) The category of purpose is constantly used in biology in reference to the lower organisms, but I suppose no one would maintain that these, or for that matter man himself, have a preconceived plan of their own existence and of the functions of their parts. The interpretation of purpose as consisting in the realization of an antecedent plan is natural enough when applied to cases of the execution of an order or

command or to machines which realize purposes intended by their maker, but it is clearly inadequate as a complete account.

(b) It is thus natural that purposiveness should come to be brought under or identified with the wider notion of teleology. Now, teleology is sometimes regarded as a category co-ordinate with other forms of causality, whilst at other times it seems to be contrasted with causality. This appears to be due to an ambiguous use of the latter term, which may be taken to mean determination by conditions which can be stated in mechanical terms, and which properly applies to events or processes occasioned by a re-distribution of energy within a physical system, or it may be used more generally to refer to the determination of an event or process by any set of conditions, not necessarily mechanical. For example, vital or mental elements may be held not to be completely explicable in terms of mechanics, yet they may be constituents of a set of conditions which cause or determine an event. If cause is used in the wider sense just referred to, teleology may be regarded as a species of causality.

(i) *Determination by the future*—Teleology is often said to operate *a fronte*, while other forms of causality operate *a tergo*. But this seems to ignore the fact that in a teleological whole, the end is in a sense just as determined by the means as the means by the end. Furthermore, it involves a denial of the reality of the temporal process. If time is real, all causality must be *a tergo*.* But in truth the phenomena of voluntary behaviour, which at first sight suggest that in some sense an event in the future influences the present act, need no interpretation incompatible with the view that in causal actions it is the present conditions which are continuous with and determine the future. When I run to catch a train what moves me is a present act of thought which has for its content an event in the future. The determinant is the present act of thought or rather the impulse

* Cf. Prof. Alexander, *Space, Time & Deity*, Vol. 1, p. 287.

connected with or accompanying it. Indeed, the event contemplated, my catching the train, may not actually happen, for I may miss it.

(ii) We are thus led to substitute for the phrase, determination by the future, determination by a *tendency* to produce a result. An action is held to be teleological when it is set in motion by its own tendency to produce a result. The term tendency is used also in regard to physical agents when we wish to indicate that certain conditions have a character such that in the absence of counteracting conditions they give rise to an effect. But this does not seem to be the sense in which the term is used when applied to teleological actions. It implies *nisus* or effort or impulse and a certain amount of prospective reference. To this I shall return. Meanwhile we must note another feature of purposive action, namely, that it is in some sense a whole or organization. The series of events which enter into a purposive act are held together by the governing impulse to produce a result, and they are varied, maintained or dropped, according as they do or do not tend to that result.

(iii) *Determination by the whole*.—Thus teleological wholes are said to have a more intimate unity than that which belongs to mechanical wholes. In a mechanical whole the parts form a system or differentiated unity, but they are so related that each acts uniformly without relation to the rest, in response to the force immediately operating on it and independently of the results of its action. The parts are, so to speak, complete in themselves, independent and indifferent. In organic activity and in purposive behaviour, the parts are determined by, and vary with the requirements of the whole.* But this distinction does not seem to me very clear. For one thing some machines may be so delicately constructed and their parts so interdependent that the parts can only function together and in such a manner that a

* Cf. Professor Hobhouse, *Proc. Arist. Soc.*, XVIII., p. 473.

breakdown anywhere stops the whole. A machine, however, is not a good case, for of course it is a teleological whole. When we take other mechanical systems it is by no means obvious that the parts are indifferent. Moreover, does not the argument imply rather too sharp a severance of cause from effect? Any part of a machine will work, it is said, so long as there is a force operating upon it, whatever source it may come from. Now, no doubt the wheel of a bicycle will move whether the chain be pulled by hand or by the other wheel, but as total physical events the movement will be different in the one case from the other. Again, organic and even purposive activity may be regarded as determined by causes operating immediately; for varied conduct is determined by variation in stimuli and in conative impulses. Further, mental and purposive action may be indifferent in the sense of not being affected by its effects on elements outside the system within which it operates. It seems to me, therefore, that if the organic differs from the mechanical, the difference must lie in the kind of factors through which the "requirement of the whole" is served. Both are wholes and in both the nature of the system as a whole must be considered in accounting for changes within it, but in the former conational factors enter in such a way that the requirement of the whole expresses itself as a felt uneasiness setting up varied activities which persist until it is removed. A purposive whole is one in which the activities of the parts are determined by a felt tendency to produce results affecting the whole. This tendency may vary from what amounts to no more than a vague feeling of disturbance of equilibrium to a definitely conceived and articulate system of purposes. A complete account of purposive activity would distinguish different levels of conation and different kinds of conational wholes. We may define a conational whole as one of which the parts strive after mutual adjustment, unity and cohesion. The degree of unity or integration actually attained and the explicitness with

which the end is realized by the parts vary enormously from case to case. Whether organisms are conative wholes is much disputed. According to the mechanists the mutual adjustment of parts exhibited by organisms may be explained in terms which are used in dealing with chemical or physical equilibria : while the vitalists hold that the phenomena of organic life cannot be explained without recourse to some directive agency. Negatively the position of the latter seem to be strong, *i.e.* they seem to have shown conclusively that mechanistic explanation in the narrowest sense (which regards all phenomena as nothing but determinate and computable configurations and motions) is not adequate to the facts of life and mind. On the other hand to account for vital integration by recourse to the agency of a vital force acting upon the bodily processes, and similarly to account for the unity of conscious experience by calling in the aid of a substantial soul is simply to "restate the characteristic nature of the facts and hypostatize it as a causal *prins* of its own existence."* It seems better to regard the integration exhibited in life and mind as due not to a separate entity acting upon and interfering with or modifying the bodily processes, but rather as the result of the interaction of elements which make up the psychophysical whole. In other words, according to this view we regard living beings as exhibiting a new form of correlation of the parts of a system, a new form of integration qualitatively different from the kind of unification that can be seen in systems that are merely mechanical. Perhaps the cells of metazon are themselves conative (†) and if so organisms are conative wholes in the sense above referred to, and their unity is the result of the striving of its parts after mutual adjustment. The unity achieved is of course not complete even in highly developed organisms. "We know," says Dr. Rivers, "that the living body is the seat of conflicts

* Prof. Pringle Pattison, *The Idea of Immortality*, p. 113.

† Cf. Prof. Hobhouse, *ibid.*, p. 474.

between forces of many different kinds, that various secretions of the body have actions antagonistic to one another, and that the apparent harmony of the body is due to a highly delicate process of adjustment whereby a balance is held between these conflicting forces.”* Physiologically a motor act or idea seems to be the expression of some sort of neural equilibrium resulting from the action and interaction of the parts of the cortex and the reverberation of nervous activity from one association centre to another.† We have here a new integration whose precise nature is not understood. A higher level of integration is seen in the holding together of the various processes of consciousness in a single or individual stream. In this case also the unity achieved varies considerably and may well be of the nature of a balance of elements striving after mutual adjustment.

When we pass from the organism to organic activity or behaviour we meet with phenomena which imply active striving, tentative effort, selective preference, prospective reference and progressive organization which are indicative of the growth of mind and of its nisus towards co-ordination and unity. A comparative study of behaviour enables us to mark out conational unities of different degrees of coherence, articulateness, comprehensiveness and plasticity. All are characterized by the fact that they are systems of elements or processes, which have a temporal individuality and which exhibit such varied effort and adjustment of part to part as serves to maintain and prolong that individuality. The adjustment may be no more than a balance of conflicting elements, just sufficient somehow to preserve the system as a whole, and may even involve a great deal of suppression or it may be delicately harmonized, satisfying the conation of each element and at the same time maintaining the whole. In such cases we have a system in which the parts

* *Psychology and Politics*, p. 57.

† Cf. Herrick, *Introduction to Neurology*, p. 329.

are truly means and ends to one another. Possibly only approximations to this ideal type exist. The harmonious unity of the whole is the final end of the system, but it is only in the higher phases of correlation or integration that the end enters into clear consciousness. Teleological wholes then are conational; they consist of parts which severally and with varying degrees of awareness, strive after mutual adjustment. Purposive wholes in the narrower sense are a species of this wider genus.

(iv) Teleology is sometimes explained by reference to the idea of value. It is said that a nexus of cause and effect can be looked upon as also a nexus of means to end, whenever the effect has *value*. This is an interesting theory, but I doubt whether as a causal agent, at least from the point of view of the organism concerned, value can be satisfactorily explained apart from some reference to satisfied conation, and we are thus brought back to the view suggested above.

(c) We may now inquire whether and in what sense the category of purpose applies to social wholes. There are many different kinds of social wholes, varying enormously in permanence, coherence, plasticity, differentiation and unity. In recent discussions it has become customary to distinguish between society or community and association. The former refers to a group of social beings living a common life, and includes all the relations organized and unorganized that make up that common life. The latter term is used to refer to groupings which exist for specific purposes or functions and are therefore partial forms of community. They vary in comprehensiveness, scale and duration with the character of the purposes which they subserve. I propose to confine attention here to community as an integral whole and leave aside the question of the nature of the partial associations or other groupings within it.

(i) *Continuity*.—Communities maintain themselves as continuous wholes, resist injuries and exhibit plasticity of adjustment in the face of a varying environment. This can be seen in

various ways. Firstly there is spatial continuity due to a life in a given area marked off from other areas. This need not be laboured. The importance of a definite home country to the unity of a people is obvious. Definite attachment to a given locality is important even for minor associations. For example, the family owed a great deal of its stability at some periods of its history to the fact it was attached to a house or piece of land that was not often alienated, and its disintegration is at least partly due to the greater mobility of its members occasioned by changes in the industrial system and the consequent breaking of local ties. Secondly, there is the temporal and physiological continuity of generations. In any community there is never any moment of which we can say that in it an entirely new generation begins. The change is gradual and continuous, and the number of new elements arriving at any one moment is small in proportion to the mass that remains. Thirdly, not only does one generation pass into another, but it transmits its qualities, physical and mental, through the influence of heredity. Thus a race or nation comes to have a set of characteristics exhibited more or less continuously in successive generations. The unity and continuity thus attained must not, however, be exaggerated. Many attempts have been made to explain social history in terms of a special character or temperament or predisposition supposed to be immanent in each race and manifesting itself in their institutions. These attempts have taken many forms, and they have a way of reappearing in different guise as new classifications of races come and go. Detailed study invariably seems to show their inadequacy. They break down completely, for example, when applied to legal history,* and they come no less to grief when used to explain the national peculiarities of literature and art or religion, or such social phenomena as the frequency of divorce and suicide. They at once exaggerate and over-simplify the

* Cf. Roscoe Pound, *Interpretations of Legal History*, Ch. IV.

unity and continuity of social life, and ignore the fact that national or social unity is integrative and creative, a resultant of the action and interaction of many and varied forces in contact with a varying environment. The real agents of social change are not racial or ethnic, but social, though the former may act as contributory causes in accelerating social or traditional changes. With these qualifications, physiological heredity is an important factor in the conditions upon which depends the continuity of the life of a people. A fourth and more important factor is social as distinguished from biological heredity. Communities create for themselves a tradition, a system of beliefs, institutions and organizations, which have a permanence and an efficacy greater than that which belongs to any individual. In this connexion too, there is a tendency to exaggerate the degree of unity attained. It is only too easy to assume that an institution which exists to-day is the same as that which was called by the same name hundreds of years ago, or that in all institutions there is a definite principle expressing constant and permanent needs of human nature. The truth is that institutions change in character and function and that their identity in the flux of time is largely illusory—the illusion being due to the fact that we often cannot point to any definite act replacing by one stroke the old by the new. This is particularly clear in the case of legal institutions which change gradually by a “succession of crumbling,* repairs, partial replacings, remodellings and additions”—an adaptive process of trial and error. It should also be noted, as Lotze has pointed out,† that though the effect of tradition is continuous and cumulative, there is a great deal that cannot be transmitted. “The elevating freshness and joyousness, full of prophetic insight that distinguish an age of invention and discovery, are not transmitted to the ages that are its heirs. Scientific truths,

* Cf. Roscoe Pound, *ibid.*, p. 39.

† *Microcosmos II.*, Eng. Tr., p. 151.

hardly-won principles of social morality, revelations of religious enthusiasm and artistic intuition, are all subject to this devitalisation ; the greater the amount of this wealth which is transmitted to later generations, the less is it a living possession, even when distinctly recognized and retained, which it not always is."

(ii) *Interdependence of parts*.—Communities vary considerably in the closeness of connexion that exists between their parts. Some are only held together very loosely. Some, aptly described by Durkheim as segmentary, consist of little more than reduplications of similar parts, without any central controlling principle and resembling the lower metameric organisms. Others, more highly organized, consist of parts which are functionally complementary and possess a great deal of central control. The interconnexion is most obvious in the industrial systems of advanced nations. The series of industrial processes of which they consist, exhibit an extraordinary number of connecting bonds, both of union and opposition, and though they may appear at first sight to be running, each a completely isolated course, they in fact cross, fuse, and separate at various points and in a sense constitute an integral whole. Transport and finance in particular are pervasive and connective and give continuity to the whole movement. A similar interconnexion can be seen in the mutual influence exerted by the various sciences and arts upon one another and upon the general life of a people. This interconnexion is deeply rooted in the relation between the individual and society. Not only are individuals endowed with social impulses which need other members of society for their realization or satisfaction, but the contents of the individual mind are largely social in character in the sense that they come to be known by them as the result of social interaction. Indeed, the consciousness of self develops through intersubjective intercourse. Even conflicts between individuals are to some extent social,

arise out of social interaction, and the most difficult to solve are those which are inspired by group feeling or group selfishness. Communities arise and maintain themselves in response to common needs and the pressure of common desires and purposes which cannot be fulfilled except through co-operation. Individuals are essentially and intrinsically related to one another, and the development of individuality and of sociality go on together.

(iii) *Persistence with varied effort and equilibration.*—Communities have remarkable powers of resisting injuries and of adapting themselves to changing circumstances. In the face of danger, for example, old institutions will be utilized to serve new purposes, and a reorganization of social elements may take place to meet emergencies. In normal times also there is a great deal of plasticity in the life of communities, though, of course, not all communities are equally plastic. The process of adjustment moves towards an equilibrium. Thus, for example, in industry there is, as economists tell us, a movement towards equilibrium both in production and consumption. A similar process may be observed in the reaction of a society to a great invention or other sudden change. Diffusion takes places gradually, and society again attains a sort of equilibrium. The most interesting phenomenon in this connexion are perhaps the changes that come about in the life of a people as the result of changes in the control of nature and in material culture generally. Changes in the quantity of population seem also to point to a kind of moving equilibrium. According to some authorities* there is a tendency for population to reach an optimum density, *i.e.* a density which, taking into account, on the one hand, the known arts of production, and, on the other, the habits of a people at any given time, will be the most desirable from the point of view of return per head of the population.

* Cf. Carr-Saunders, *The Population Problem*, p. 200 *seq.*

(iv) *Growth and development*.—The process of equilibration seems closely connected with growth. Communities grow by continuously shifting or moving their equilibrium. Development takes place gradually by a process of natural multiplication and outward expansion, by extending the area of organization, and by a rearrangement of elements within the community. In so far as there is genuine growth, there is a liberation of energy hitherto suppressed, and co-operation where hitherto there had been conflict. The most primitive communities of whom we have information live in very small groups and in comparative isolation. Gradually organization expands and covers greater and greater areas. This is at first achieved through military power, and is maintained by authoritarian means. But large scale organizations which depend entirely on force do not seem to succeed in the long run, unless there also takes place a process of inner unification calling forth the willing response and co-operation of its constituent members. Thus periods during which great states are formed by military conquest are generally succeeded by periods of disintegration and the formation of small states, which only attain ultimate unity after long and painful preparation. Inner integration is just as important as outward expansion. Those communities are more developed which allow a fuller and richer life to their members, which have more voluntary organizations within them, which encourage individuality and initiative. A survey of human history seems to point to a progressive, though not continuous, movement towards the integration and unification of humanity; the formation of wider and yet wider unities—whether we take as our criterion extension of scale of organization or inner unity.

(d) Having discussed the most important characteristics of communities, we may now return to the question whether they can be regarded as conative wholes. This is a wider term than

organism. We have to recognize many different kinds of conative wholes among organisms themselves. Some are only very low unities, for example, those constituted by colonies of cells, others consist of reduplications of similar parts. Again, they differ enormously in complexity and differentiation of function and in the degree of central control. Societies can be similarly classified, on the basis of their complexity, differentiation and the amount of central control. Both societies and organisms vary greatly as regards inner harmony and the presence or absence of conflict and obstruction. On the other hand, while in the higher organisms the parts tend to lose their independence, the contrary is the case in regard to societies. The latter consist of parts which are themselves individual organisms. Accordingly the parts have much greater mobility and are exposed to more varied external influences than are the parts of an individual organism which are physically closely interconnected. The higher societies are therefore more plastic than the higher organisms. Another important difference arises from the fact that a developed community is *communitas communitatum* and includes within itself a multiplicity of associations, groups within groups, in bewildering variety. Individuals may and do belong to a large number of these associations. Moreover, the relations that bind individuals to their associations vary in intensity and importance, according to the purposes which the associations serve. The cells of an organism cannot similarly form part of different systems. Again, the more highly developed a community, the greater the number of its voluntary associations and the greater the freedom possessed by individuals to move from one association to another within or even without the community. (Note, however, that not all associations permit this freedom. For example, one cannot be a citizen of more than one state.) Further, the parts of a community are more readily interchangeable. Functions

at one time fulfilled by a particular section of society may at another be fulfilled by quite other bodies. The claim to be "a harmonious equipotential system" in which "*Jedes kann jedes*," that Driesch makes for individual organisms at certain stages of their development, has not, I understand, been substantiated,* but it could with more plausibility be made for social wholes, owing to the greater plasticity and modifiability of the parts. It should also be remembered that the mutuality and interpenetration of parts is even in the higher communities very imperfect and the diffusion of welfare very unequal. Moral barbarism, mental obtuseness and physical wretchedness are found side by side with the refinements of life, high intellectual development and a clear sense of the purposes of human life. There is much conflict due to ignorance and, in part, real incompatibility of needs. There is much obstruction due to indifference. Apart from these differences, there is the important fact that there is no evidence whatever in favour of the existence of a collective consciousness, analogous to the individual consciousness. We have, it seems to me, to recognize integrations of different orders or levels, and the kind of integration exhibited by social wholes is not the same as that which characterizes the holding together of mental processes in one stream of consciousness. Social wholes are, however, organic and conational in the sense that they are wholes which maintain themselves as such by the efforts of their parts towards mutual adjustment. They all reveal a *nisus* towards wholeness. The historical process embodies the conscious and unconscious efforts of a plurality of individuals to form wider and yet wider wholes. Institutions and tradition generally may be regarded as the result of these efforts. They arise out of the interaction of many minds, in response to the pressure of mutual needs and wants, and are trial and error experiments towards mutual adjustment. They are not, as a rule, the result of clearly thought

* Cf. Jennings, *Philosophical Review*, 1918. p. 585.

out purposes. The facts of social life and history do not point to the existence of a preconceived plan or unitary purpose, steadily carried out by a unitary mind, but to an advancing organization painfully achieved, through the efforts and struggles of generations of individuals. Nor is the unity attained that of a pre-established harmony independent of the minds of individuals. It is rather a unity of becoming, a process of integration or creative synthesis. The purpose of the whole, if we may speak of one, itself grows and is modified in the course of this process of synthesis; for it consists of an organization of human potentialities and human strivings, and implies continual reciprocal action, surrender and accommodation, the interweaving and modification of individual aims and desires, determined only in part by the conditions of ultimate harmony. Even those who look at history as a process in which an impersonal spirit is realizing itself, do not claim that this final aim of history is made a distinct object of desire and interest on the part of individuals. What moves them are their own interests and cravings. "Nothing," says Hegel, "has been accomplished without interest on the part of the actors . . . nothing great in the world has been accomplished without *passion*."* Indeed, unless the strivings of individuals are regarded as real causes, then they become but means and instruments utilized by the "cunning of Reason" for purposes not theirs and even against their own will; and this is actually maintained by Hegel, at least in one phase of his teaching.† If individuals, however, are ends in themselves, then the final end cannot be external to them, but must consist in a mode of life lived by them, not anything preconceived and predetermined, but something that grows and develops as the result of the striving and interaction between individuals "out of the bliss and despair, the admiration and loathing, the love and the hate, the

* *Philosophy of History*, p. 24.

† *Ibid.*, p. 28.

joyous certainty and the despairing longing, and all the nameless fear and favour in which that life passes which alone is worthy to be called life.”*

In any particular case, it may be exceedingly difficult to determine the nature of the final causes involved. It is but too easy to assume that the result that actually follows upon a given social process was that intended by the individuals concerned to bring it about. But experience shows that if we try to reason from present functions to past intentions we are almost certainly mistaken. Laws in particular seldom bring about the results which were expected from them when they were being drawn up. Institutions, like individual actions, are characterized by an amazing “heterogony of ends.” Their functions seem often to change without the intervention of a directing will. “The human will,” says Tourtoulon,† is a juridical cause, but it is nothing more than a cause. It urges the law to the right or left, it knows not whither. Must we compare it to Luther’s tipsy peasant who cannot stay on his donkey, but falls sometimes to one side, sometimes to the other? This would perhaps be giving it too much honour, for the peasant knows that he has a road and wishes to follow it, although he cannot. The juridical will has no road to follow. It goes, as the poet says, “où va toute chose, où va la feuille de rose et la feuille de laurier.” In this perhaps there is some exaggeration, though it seems true that if we take long periods of history, social efforts do not exhibit a purposiveness beyond that involved in the stage of trial and error. Another difficulty in the study of final causes in the social process arises from the frequent confusion of mediate with ultimate ends, and from the fact that for various psychological reasons means come to be regarded as ends and pursued with an energy and devotion only appropriate to ends. Finally, and especially in

* Lotze, *Microcosmos II.*, p. 167.

† *Philosophy in the development of law.*

the case of the great personages of history, the difficulties in the way of interpreting motives are enhanced by the fact that the "psychological valets," as Hegel says, tend to bring down their heroes "to a level with—or rather a few degrees below the level of—the morality of such exquisite discerners of spirits," and thus to misunderstand the real nature of the purposes which guided them.

XVI.—IN MEMORIAM: BERNARD BOSANQUET.

SOME PERSONAL RECOLLECTIONS.

By H. WILDON CARR.

MR. BERNARD BOSANQUET, a member of our Society since 1886 and a past president, died on February 8th, 1923, at the age of 74. For several years he had been prevented by delicate health from attending our meetings, but his interest in the Society continued to the end. He read the papers sent out before the meetings and whenever they touched on his own special work he would send a written criticism or communicate direct with the author. The last occasion on which I had the privilege of seeing him was a few weeks only before his final brief illness, and there was then no sign that the end was near. We talked together of the work which the Society was doing and proposing to do, and particularly of the new direction which philosophical speculation was taking as a consequence of the new theories in mathematics and physics. He had for his part never been able to see the relevance of the new mathematical principle to the central problem of philosophy, and yet he was wholly sympathetic towards the insistence of Lord Haldane and myself on the philosophical importance of the principle of relativity. He was anxious to understand us. The subject of greater interest to him which we then discussed, however, was the new edition of Mr. Bradley's *Logic*. A short review, of which he knew me to be the writer, had just appeared. He took exception to a casual remark in it which had seemed to speak slightly of Bradley's *Ethical Studies*, and gave as his opinion that this earlier book had effected as complete a revolution in ethical theory as the *Logic* did later in the then dominant logical theory. The next day I received from him a letter, the last he was to write to me. It is of more than personal interest, for it expresses his view of Bradley's work which was so intimately associated with his

own, and for this reason I will quote it entire. It is dated December 17th, 1922.

“MY DEAR CARR,—I got a little off the point in talking of your article yesterday. The question of how one regards *Ethical Studies* was just a minor matter by the way. And I did not say, what I had in mind to say, how much I admired and sympathized with the article in its whole appreciation of Bradley’s position and influence. He is clearly developing more and more that leaning which is expressed in his doctrine of thought, and which you refer to in your two quotations at the beginning, the view that, so to speak, even in philosophy you must take what you can get and a good half is more than a meagre whole ! I think the article is on the spot and will do good. Yours sincerely, BERNARD BOSANQUET.”

When Mr. Bosanquet joined the Aristotelian Society in the autumn of 1886 we were entering on our seventh session. Shortly before this the Society had passed through a crisis which had threatened its existence, but when Mr. Bosanquet joined, it was successfully started on its present lines. It had been founded originally in 1880 by a small group of young men, for the most part engaged in professional work of a scientific and literary nature, but with no special knowledge of philosophy, and with no claim to authority or originality. The minutes of the Society record that eight were present at the preliminary meeting held in Dr. Senier’s chemical laboratory in Bloomsbury Square. They include some well-known names. The only one of the eight still with us, now an honorary member, is Professor Wyndham R. Dunstan, a Director of the Imperial Institute. Among the others were Herbert Burrows who became well known later through his association with the theosophical movement, William Clarke, one of the writers in the original volume of Fabian essays, and Dr. Alfred Senier, afterwards Professor of Chemistry in the University of Galway, who was appointed the first honorary

secretary. Mr. Frederic Harrison, unable to be present, sent a letter of suggestions to the meeting. Among the resolutions recorded was one that "the number of members should be about twenty and should include, if possible, both ladies and gentlemen." The Society was formally constituted and Mr. Shadworth Hodgson, a gentleman of independent means, unconnected with the teaching profession, living in London and already known as a leading British philosopher, was invited to be president. He accepted, and his whole energy during the early years of the Society was spent in guiding it to undertake serious work. I myself joined the Society in its second session, introduced by my friend Rev. E. P. Scrymgour, whose lectures on English literature at King's College had given me the first incentive to study philosophy. The Society at that time used to meet fortnightly in a small room in John Street, Adelphi. Our plan was to study by means of open discussion the works of the classical philosophers, each of us taking his turn to introduce the subject in a paper which was devoted to some particular philosopher or section of his work. The Society soon began to attract attention, and many who have become distinguished in philosophy joined us at that time. Lord Haldane, then Mr. R. B. Haldane, William James, Thomas Davidson, Belfort Bax, were elected at the beginning of the session 1883. A dialectical tone prevailed in the discussions, of which the chief sustainers were Dr. Burns-Gibson, a medical practitioner, who held strongly Hegelian views in philosophy, and a Swedenborgian clergyman, Rev. W. Crosby Barlow. But if the transcendental element in the Society was strong, the empirical opposition had the support of the president, who insisted on rejecting utterly what he called the psychological fallacy of the Hegelians in their attribution of agency to consciousness. Like all young and vital movements, the Society had its crisis—I have already alluded to it—and small as were our numbers it was not surmounted without a secession. The Society survived, however, and, indeed, won through with the

character stamped upon it which it has ever since sustained, that of absolute freedom from the dominance of any influence, personal or scholastic. The trouble arose in the disaffection of some members who believed that the Society was being used by the president for philosophical propaganda. We were becoming, it was said, a school for the teaching of Hodgsonian philosophy. If the danger was more than imaginary, the crisis completely averted it. The secession was met by a private appeal to persons known to be interested in philosophy, and we moved from the small room in the Adelphi to the more commodious and comfortable rooms of the Royal Asiatic Society. The response to the appeal was slow, but gradually we ceased to be primarily a student's society, and became a learned society in the precise meaning of an association of philosophers meeting as equals for the discussion of philosophical problems. Original papers and symposia now took the place of the methodical study of authorities in the manner of the class-room. It was when we were well launched on our new career that Mr. Bosanquet joined us, and about the same time Alexander Bain, G. J. Romanes, Aubrey Moore, D. G. Ritchie, S. Alexander, G. F. Stout, F. C. Conybeare, W. R. Sorley and J. M. Cattell became members. A few years later Bertrand Russell, G. E. Moore, Hastings Rashdall, G. Dawes Hicks and A. F. Shand joined. The discussions were animated, and as they were seldom exhausted when the closing hour, 10.30, was reached, Mr. Shadworth Hodgson would invite us to adjourn to his chambers in Conduit Street, where in easy chairs surrounded with his splendid collection of books, we would continue our informal discussions often till long past midnight.

Mr. Bosanquet had been led to join us, not in consequence of any personal appeal, but because the aims and method of the Society attracted him. He had given up tutorial work in connexion with his fellowship of University College, Oxford,

and had come to live in London, drawn by his keen interest in social work and the wider sphere for his activity offered by the various intellectual movements which were a marked feature of that time in London. His chief interest was in the work of Charity Organization, and he devoted to that Society the major portion of his time, in conjunction with his friend the late Sir C. S. Loch, its organizing secretary. He became chairman of its London Committee. He was also one of the founders of the original Ethical Society, which was formed about that time in order to provide lectures on Sunday evenings. Another of his activities was in connexion with the University Extension Board, also a new movement, and his courses of lectures on Logic, *Æsthetic*, Plato's Republic and kindred subjects, delivered under the auspices of that Board, were published, and are among his most popular works.

It is interesting to me to discover that Mr. Bosanquet was elected to membership on the same day, November 22nd, 1886, on which the Society appointed me its honorary secretary. On that day also the Society passed a resolution to publish Proceedings. This had been for a long time our great problem. We realized that the progress and success of the Society depended on our power to institute and maintain the publication of our important papers, but we had no accumulated funds. We began in that year in a very tentative way, at first with abstracts only, and then with selected papers. Our original series of Proceedings were issued at irregular intervals and under considerable difficulties, and after a few years we discontinued it and entered into a definite arrangement with *Mind*, which undertook to publish a specified number of our papers. From 1897 to 1900 our important papers were published in this way, but in 1900 *Mind* was transferred to the Mind Association and we began our present "New Series."

It was during the period from 1886-1900 that Mr. Bosanquet was most closely associated with us, regular in attendance and

assiduous and helpful in our councils. In 1888 he was elected a vice-president, and from 1894 to 1898 he was president. He brought into our Society a spirit and attitude towards the problems of philosophy which were essential to our success, and only by identifying himself with us and sinking his own personality in us could the influence he brought be effective. Philosophers, as we know, are human and subject to all the frailties and vanities of human nature. We may imagine ourselves disinterested contemplators of reality and pure seekers after truth, but when we have formed our opinions or convinced ourselves of the truth of our theory, especially if it has any mark of originality, we are as proud and self-assertive of our ideas as scientific men of their inventions. We seek to make our ideas prevail and are jealous of having them named with our name. Mr. Shadworth Hodgson was a clear thinker and far and away the strongest philosophical force in our Society; he had, moreover, an extraordinary gift of lucid exposition, but he had a serious drawback. He was unable to understand why anyone should differ from him, and his only way with an opponent was to reiterate his own view until the opposer grew weary of opposing. Mr. Bosanquet was the exact contrary. He was always anxious to bring out what was true or what was valuable in a doctrine with which he might be in complete disagreement. Yet he never left his own view in doubt. He was also always conscious of a peculiar difficulty in the very nature of philosophy itself. Mr. Hodgson could express himself with precision and clearness because his doctrines were sharply delineated. Mr. Bosanquet felt that his doctrines did not lend themselves to scientific precision because the problems were complex and very elusive. For Mr. Hodgson we may say philosophy was a doctrine, for Mr. Bosanquet it was a problem. Mr. Hodgson had he alone controlled the Society would have let it die of inanition. He was exceedingly helpful and gave his whole thought and time to the service of the Society, but when we had

heard from the chair the oft-repeated, careful and clear, account of his principle and method, which appeared to him relevant whatever might be the particular subject of discussion, it seemed to deaden debate. Mr. Bosanquet brought into the Society not merely a different philosophical standpoint, but an entirely different spirit. He would raise a poor discussion out of the slough and invest it with interest. I have many recollections of his defending doctrines to which he was as hostile as any of us purely in the spirit of fairness. More than anyone he recognized that if we see further than our predecessors it is because we can climb on their shoulders. What we owe to him is, therefore, not only the positive ideas with which he enriched our Proceedings, but the help he rendered to all of us to express freely our own views.

In 1891 the Society inaugurated a policy which has led to the institution of the joint sessions or general congresses which we are now accustomed to hold in the summer. We had at that time many members permanently resident in Oxford and Cambridge, and we decided to hold meetings occasionally in those universities with the idea that many unable to come to London would have an opportunity of taking part in the Proceedings. The first of such meetings was held at Oxford on November 16th, 1891. The subject was a symposium, "The origin of the perception of the external world," and the papers were by Shadworth Hodgson, Bernard Bosanquet and D. G. Ritchie. There was a large attendance, but I think we were generally disappointed at our reception. We were very serious, and our President, Mr. Hodgson, was extremely sensitive to criticism, and the Oxford Magazine had a lively skit on our proceedings under the heading, "The External World on the Aristotelian Society."

At the International Congress of Philosophy, held at Bologna in the spring of 1911, it was arranged to hold the next Congress in London in 1915 and Mr. Bosanquet was appointed to be

President. The outbreak of war in the summer of 1914 destroyed any hope of carrying out the arrangements, and the whole scheme was suspended. Before this happened, however, Mr. Bosanquet had worked zealously and continuously for the success of the meeting. Another effect of the outbreak of war was that the President of that year, 1914–1915, Mr. A. J. Balfour, was unable, on account of the sudden stress of Government work, to give his promised inaugural address, and Mr. Bosanquet took his place at short notice. The last occasion on which he was able to be present in person at our meetings was a notable one. It was at our joint session in 1918, when in a symposium in which Professor Pringle-Pattison, Professor G. F. Stout and Lord Haldane took part, he defended his theory of the adjectival nature of finite individuality.

Mr. Bosanquet belongs to the world of philosophy generally, and not in any special way to the Aristotelian Society, but we may justly pride ourselves that one who, some of us think more than anyone else of this generation, will live in history as representative of a great English philosophical movement should have been throughout his active life so closely associated with us.

I append a complete list of the papers written by him for our meetings :—

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| December 5th, 1887. | "Is Mind synonymous with Consciousness?"
Symposium Paper. <i>Proceedings</i> , O.S., Vol. I,
No. 1. |
| January 23rd, 1888. | "The Philosophical Importance of a true Theory
of Identity." <i>Mind</i> , July, 1888. |
| March 11th, 1889. | "What takes place in Voluntary Action?"
Symposium paper. <i>Proceedings</i> , O.S., Vol. I,
No. 2. |
| March 25th, 1889. | "The Part played by Æsthetic in the growth of
Modern Philosophy." <i>Proceedings</i> , O.S., Vol. I,
No. 2. |
| December 2nd, 1889. | "The Æsthetic Theory of Ugliness." <i>Pro-
ceedings</i> , O.S., Vol. I, No. 3. |
| March 17th, 1890. | "The Relation of the Fine Arts to one another."
Symposium paper. <i>Proceedings</i> , O.S., Vol. I,
No. 3. |

- December 1st, 1890. "The Main outlines of Hellenic Theory concerning the Beautiful."
- May 25th, 1891. "Heredity as a Factor in Knowledge." Symposium paper.
- November 16th, 1891. "The Origin of the Perception of the External World." Symposium. *Proceedings*, O.S., Vol. II, No. 1.
- January 11th, 1892. "The Permanent Meaning of the Argument from Design." *Proceedings*, O.S., Vol. II, No. 1.
- January 23rd, 1893. "Notes on Space and the Third Dimension in James's Psychology."
- February 19th, 1894. "The Conception of the Soul in Plato and Aristotle."
- November 5th, 1894. "The Essential Distinction in Theories of Experience." Presidential Address. *Proceedings*, O.S. Vol. III, No. 1.
- November 4th, 1895. "Time and the Absolute." Presidential Address. *Proceedings*, O.S., Vol. III, No. 2.
- April 27th, 1896. "Are Character and Circumstances Co-ordinate factors in Human Life, or is either Subordinate to the other?" Symposium paper. *Proceedings*, O.S., Vol. III, No. 2.
- November 2nd, 1896. "The Relation of Sociology to Philosophy." Presidential Address. *Mind*, N.S., Vol. VI, p. 1.
- January 11th, 1897. "In what sense, if any, do past and future time exist?" Symposium paper. *Mind*, N.S., Vol. VI, p. 228.
- November 1st, 1897. "Hegel's Theory of the Political Organism." Presidential Address. *Mind*, N.S., Vol. VII, p. 1.
- February 13th, 1899. "Social Antomatism and the Imitation Theory." *Mind*, N.S., Vol. VIII, p. 167.
- December 2nd, 1901. "Recent Criticism of Green's Ethics." *Proceedings*, N.S., Vol. II.
- April 18th, 1906. "Can Logic Abstract from the psychological condition of Thinking?" Symposium paper. *Proceedings*, Vol. VI.
- February 1st, 1909. "The Place of Experts in Democracy." Symposium paper. *Proceedings*, Vol. IX.
- December 5th, 1910. "On a Defect in the Customary logical formulation of inductive reasoning." *Proceedings*, Vol. XI.

- June 1st, 1912. "Purpose and Mechanism." Symposium paper. *Proceedings*, Vol. XII.
- November 30th, 1914. "Science and Philosophy." Inaugural Address. *Proceedings*, Vol. XV.
- May 5th, 1915. "The Import of Propositions." Symposium paper. *Proceedings*, Vol. XV.
- December 4th, 1916. "The Function of the State in promoting the unity of Mankind." *Proceedings*, Vol. XVII.
- July 7th, 1918. "Do Finite Individuals possess a Substantive or an Adjectival mode of being?" Symposium paper. *Proceedings*, Vol. XVIII, also in Supplementary Volume I, *Life and Finite Individuality*.

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